



UNIVERSITY
of
GLASGOW

Driscoll, S.T. (1997) Pictish settlement in North-East Fife: the Scottish Field School of Archaeology excavations at Easter Kinnear. *Tayside and Fife Archaeological Journal* 3:pp. 74-118.

<http://eprints.gla.ac.uk/3314/>

TAYSIDE AND FIFE

ARCHAEOLOGICAL

JOURNAL



VOLUME THREE 1997



TAYSIDE & FIFE
ARCHAEOLOGICAL
COMMITTEE
1997

A Pictish settlement in north-east Fife: the Scottish Field School of Archaeology excavations at Easter Kinnear

Stephen T Driscoll

with contributions by Jane Fletcher and Camilla Dickson

Background to medieval settlement studies

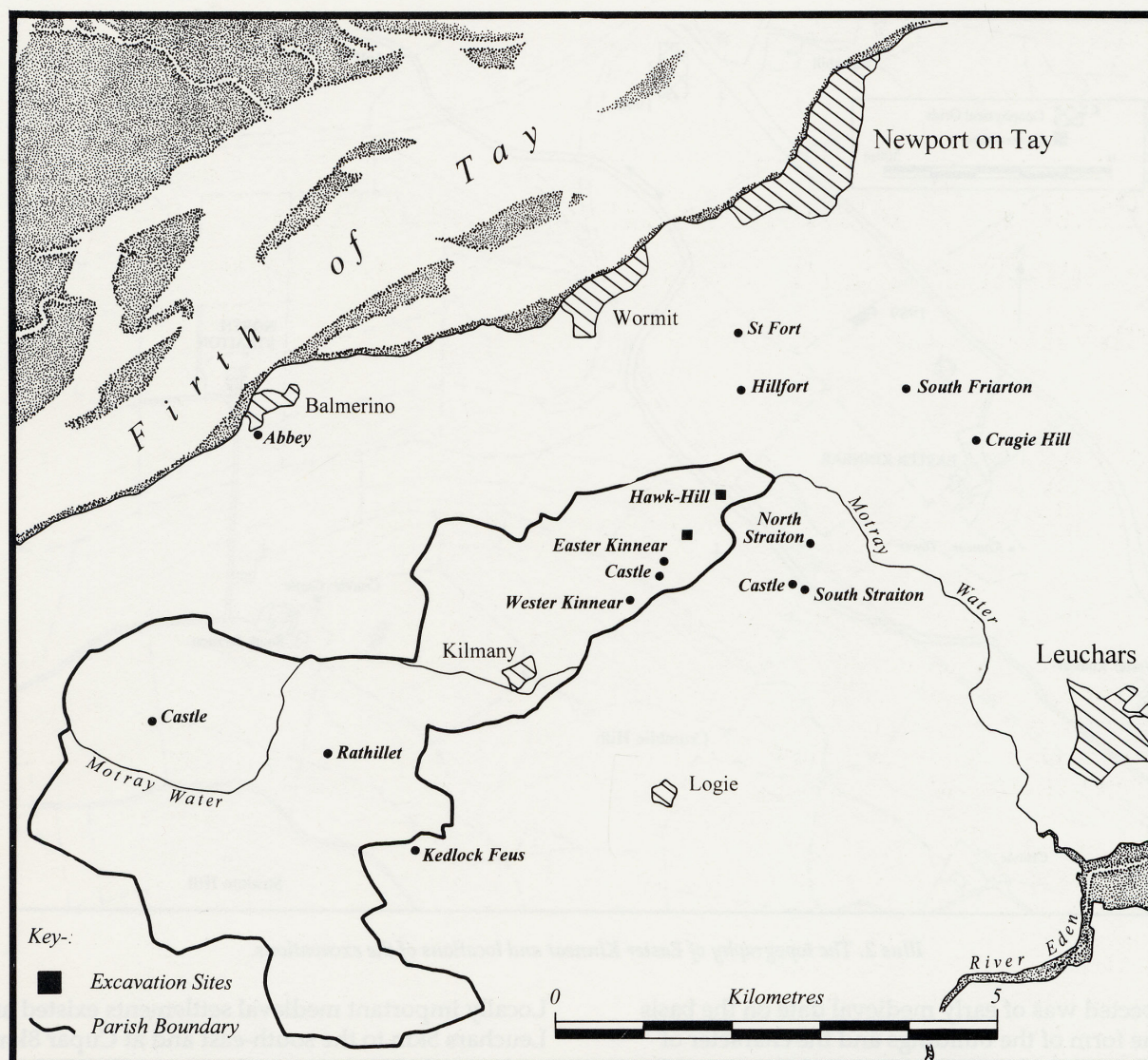
This report presents the results of the excavation of two crop-mark sites which form part of the dense concentration of crop marks in the Leuchars area. The excavations were conducted under the aegis of the Scottish Field School of Archaeology (SFSA) as part of a sustained series of excavations in the Kinnear area. The central aim of the SFSA programme was to use crop-mark evidence to identify the different elements of the prehistoric and medieval settlement system of north-east Fife (Selkirk 1992). This area was chosen because systematic aerial reconnaissance by the Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS) had demonstrated that the Leuchars area has one of the densest concentrations of archaeological crop marks in the country (Maxwell 1983). This productivity is due to its favourable climate and easily worked soils, intense modern agriculture and a rich settlement history. Although there is no comprehensive survey of the archaeology of north-east Fife, its significance is apparent in Reg Candow's *Prehistoric Morton* (1989) and the Dundee Museum and Art Gallery catalogue, *Tayside before History* (Coutts 1971). In addition to the academic goals, these excavations also sought to investigate and record archaeological sites in an area which is coming under increasing pressure from residential development and gravel extraction.

The excavations at Easter Kinnear were conducted in 1989 as part of a five year programme (1987–91) under the directorship of Dr Trevor Watkins. Prior to the Easter Kinnear digs, excavations of a Bronze Age and Iron Age settlement were undertaken at North Straiton, which is the next farm over the Motray Water to the east (Watkins 1987 1988). It was followed by an excavation at Craigie Hill in 1991 (see Freeman this

volume). Subsequently, those excavations have developed into a major rescue project of Neolithic and Bronze Age remains occasioned by the development of a golf course and housing estate at Craigie Hill (James 1996).

The intention in 1989 was to examine a new type of crop mark, which might allow us to extend our understanding of the local settlement history into the medieval period. The most prominent part of the crop-mark site at Easter Kinnear was a solid dark blob partially enclosed and overlapped by a ditch which could be seen to turn a distinct right angle. On this slim evidence we hoped that we might have a medieval settlement, preferably with Pictish origins.

In the years since the publication of the *Problem of the Picts* (Wainwright 1955) great strides have been made in identifying Pictish settlements by archaeologists (Alcock 1982, Foster 1987). However, it has been the place-name scholars and historical geographers who have provided the best overview of the early medieval landscape (Jackson 1955; Whittington and Soulsby 1968). We have come to recognise that Pictish place-name elements are found in association with the richest land. It is easy to imagine that under many, if not most, farms in Fife, Angus and Perthshire there was a Pictish farm. Taking this a step further, it seemed quite likely that these large and successful farms represent major centres of agricultural production already by early medieval times. Moreover, as such, these centres were probably occupied by the upper echelons of society. This was certainly the case of Kinnear, which was of some significance when it is first recorded in the 13th century. Although the origins of these centres are obscure, a case can be made for the presence of an estate system in Pictish times (Driscoll 1991, 1992).



Illus 1. The parish of Kilmany showing the location of Easter Kinnear and other sites in NE Fife mentioned in the text.

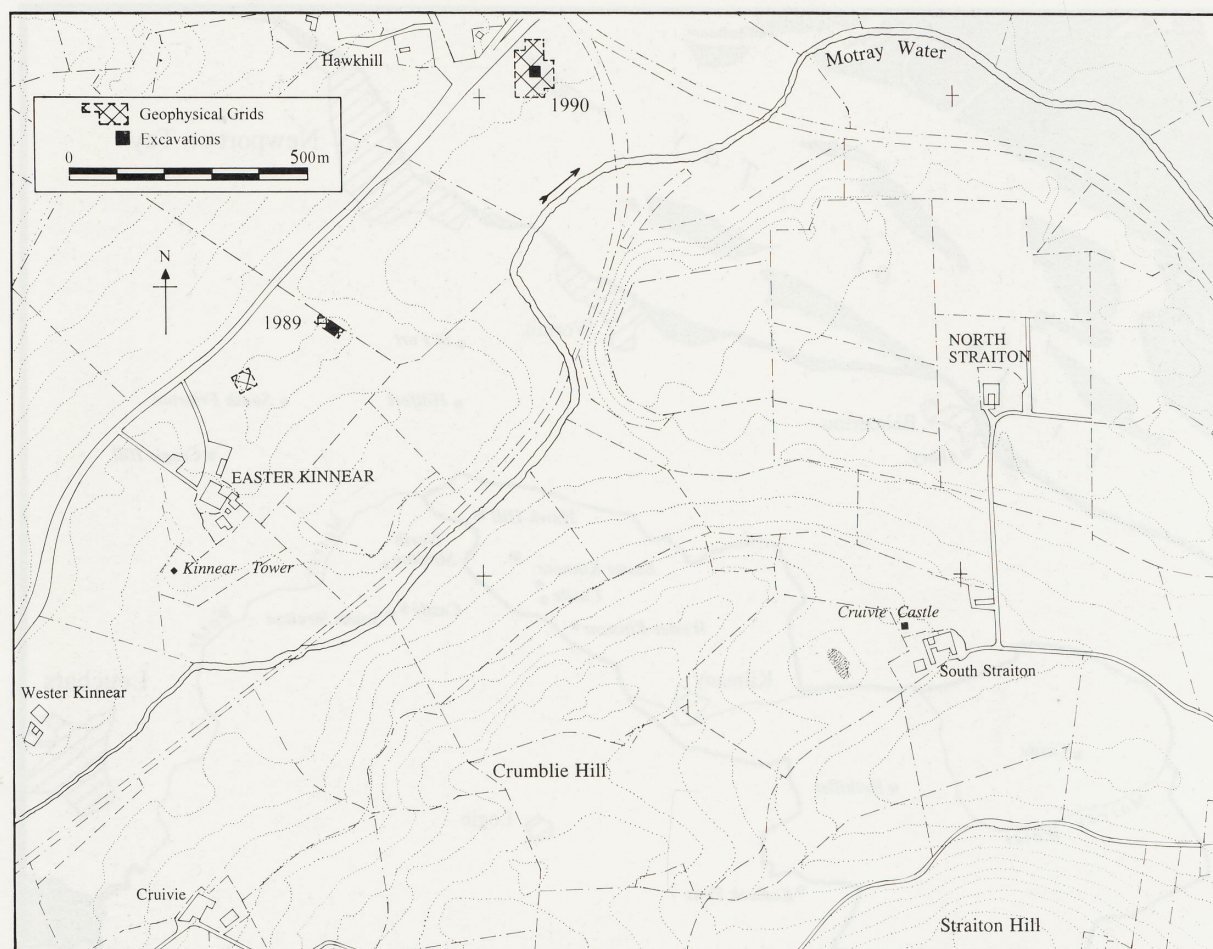
By good fortune, Easter Kinnear is blessed with excellent medieval documentation which has recently been studied in depth. The documentation is both early – Kinnear is mentioned in charters of the early 13th century – and detailed. As an agricultural unit it shows remarkable stability. Taylor and Henderson (forthcoming) have shown that the 13th-century charters describe Kinnear so well that its main components can be reconstructed with confidence, as will be discussed below (p 112).

Tracing the growth of the means by which the arable value of the land was organised and controlled is one of the most important tasks of historians and archaeologists of early medieval Scotland, since this was the ultimate source of wealth and power. Because the sites of prosperous modern farms are unavailable for investigation, as is the case of Easter Kinnear, the starting place for fieldwork is in the settlements of peasants which sustained the centres. The excavations of 1989 and 1990 appear to have revealed the settlements of the

peasants of the Kinnear estate. The value of the archaeological information is greatly enhanced by the picture which has emerged from the analysis of the medieval texts associated with Kinnear. Once the archaeological evidence has been presented we will return to these questions of landscape organisation and consider how these sites were situated and how that situation may have changed from Pictish times to the later Middle Ages.

Excavation objectives

The 1989 excavations had two main research objectives. The first was to improve our ability to interpret the settlement history of north-east Fife by examining a previously uninvestigated form of crop mark. The second related goal was to identify a site which might represent one of the missing elements of the medieval rural settlement pattern. Upon completion of excavations in 1989 we recognised that we had a new type of site, which we



Illus 2. The topography of Easter Kinnear and locations of the excavations.

suspected was of early medieval date on the basis of the form of the buildings and the character of the finds. We also appreciated the limitations of the evidence for the superstructure of both types of buildings. Therefore, we decided that a second season investigating a similar site would be worthwhile. We were fortunate in locating a second suitable site also on the lands of Easter Kinnear farm. For clarity, the site of the 1990 excavation is called Hawkhill (the name used by the National Monuments Record of Scotland to describe the aerial photograph), but the two sites are only two fields and 700m apart and both appear to have always been part of Kinnear.

For the 1990 season the objectives were formulated in response to the discoveries of the first season. Again there were two main objectives. The first was to improve the chronology by recovering more artefacts and dating samples. The second was to discover more about the structural character of the new types of buildings.

The geographical setting

Easter Kinnear lies approximately 10km north-west of St Andrews, in the parish of Kilmany.

Locally important medieval settlements existed at Leuchars 5km to the south-east and at Cupar 8km to the south. Kilmany parish is as ancient as these near neighbours. The caput of the parish held by the Earls of Fife was at Rathillet, which may explain why the village of Kilmany seems to have remained small throughout its history. About 1229 an abbey was founded at Balmerino 5km to the west on the shore of the Tay, which acquired Wester Kinnear in the mid-13th century. The abbey's intimate association with Kinnear was responsible for the survival of important charters, which allow us to speak with great confidence about the extent of the lands of Kinnear.

Easter and Wester Kinnear, originally a single holding, occupy a well-defined geographical unit. The farms are situated in the shallow valley of the Motray Water. Natural boundaries are provided by gradually rising hills to the north, which generally stand under 125m OD with occasional craggy outcrops (Illus 1). The Motray Water provides the southern march. The Long Hill closes down the valley just east of Kilmany and this defines the western extent of Kinnear. The eastern limit, co-terminus with the parish boundary, is less obviously bounded and corresponds to an abrupt



Illus 3. Aerial photograph of Easter Kinnear (copyright: Royal Commission on the Ancient and Historical Monuments of Scotland, neg F/6302). The features examined in the 1989 trench are located at, next to the vertical field boundary. The gravel ridge shows as the broad light background. At the opposite end of the gravel ridge from the settlement is a large ring-ditch crop mark which is presumably a barrow. The variation in background tone reflects the mixed composition of the subsoils, which vary from coarse sands and gravels (light areas) to spreads of fine silts (dark areas).

change in the course of the Motray Water. This course change marks an area of former marsh, which was a natural boundary. This marsh appears to have been a significant impediment to traffic judging by the presence of two place-names referring to fords: Sandford (same as St Fort) and Naughton, formerly Athnachton (**âth*, 'ford') (S Taylor pers comm). The land contained within these bounds constituted medieval Kinnear.

The rolling valley bottom is characteristic of glacially deposited sands and gravels, which contribute to the fertility of the land. The two excavated sites lie to the east of Easter Kinnear farm (Illus 2). The 1989 site, Easter Kinnear (NO 496 235), occupies the north-eastern end of a gravel ridge about 1km from the modern farm. The 1990 site, Hawk-

hill (NO410240), lies a further 0.7km north-east on the gently sloping northern side of the valley.

Geology of Kinnear. The solid geology of the Motray Water consists of lavas and tuffs of old red sandstone, surrounded by upper old red sandstone (Devonian) and calciferous sandstone with intrusive igneous rocks of general ages. These features are very well worn and decrease in altitude as one approaches the coast. The drift geology consisted of sands and gravels, with very localised deposits of peat existing in small hollows. The area has a long history of quarrying of sands and gravel, which have led to many of the local archaeological discoveries (Candow 1989, 16–26). The gravels and sands are of fine quality and



Illus 4. Aerial photograph of Hawkhill (copyright: Royal Commission on the Ancient and Historical Monuments of Scotland, neg F/9204). The clearest archaeological crop marks are seen opposite the cottage set in the triangular yard. The excavation centred on the most prominent cluster of four splodges.

large stones and boulders are extremely rare. Consequently, free stone suitable for use as building stone is scarce and any workable stone must be quarried from the convenient outcrops, especially on Lucklaw Hill immediately to the south.

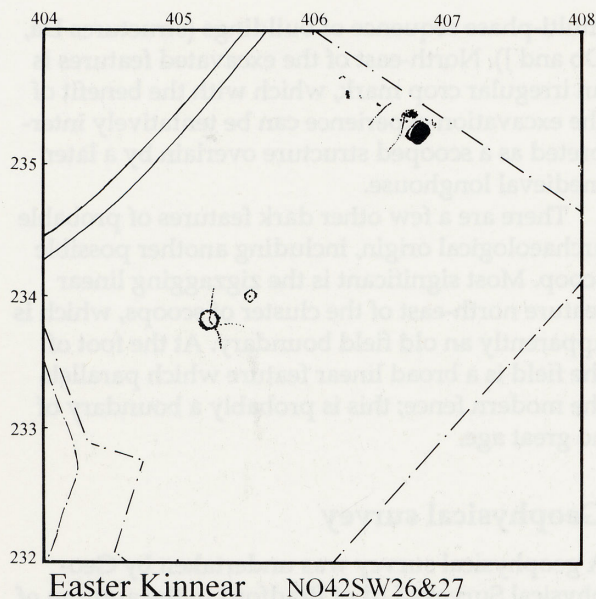
The lack of ready building stone is the only inadequacy in this otherwise exceptionally well-endowed landscape. The soils and climate combine to make this some of the best land in Scotland, which is recognised in its land-use classifications of categories 2 and 3a. This outstanding productivity is reflected in a British record yield of wheat at Milton of Leuchars in the 1980s.

The aerial photographs

The sites were discovered by the RCAHMS during routine aerial reconnaissance and were recorded as

crop marks on a series of oblique photographs taken in 1980s. The main manifestation of the crop marks are solid, sub-rectangular, areas about 10m across (Illus 3 and 4). These 'house-sized' areas do not correspond to the types of crop-mark houses previously identified in the north-east of Scotland (Maxwell 1983, RCAHMS 1994).

At Easter Kinnear the vague central area was outlined on the north side by a linear feature, which turned the corner and made a clear right angle (Illus 3). This linear element of the crop-mark complex appeared to provide a crisp delineation for a rectangular structure, which suggested that it might post-date the prehistoric round-house tradition. The main feature examined at Easter Kinnear was part of a crop-mark complex which extends along the broad ridge towards the modern farm. These crop marks include some linear features



Illus 5. An interpretative transcription of the Easter Kinnear crop marks.

which are probably field boundaries and other linear features which are almost certainly geological (frost wedges). At the opposite end of the ridge from the excavation site are two features which are probably barrows. The most prominent one is a ring-ditch with a central pit and may be presumed to be prehistoric, while the other is less distinct, but appears square, which would point to a Pictish date (Close-Brooks 1984). At Hawkhill the crop marks consist of a concentration of round and sub-rectangular 'splodges', with a few linear features, some of which may be ancient field boundaries (Illus 4).

In order to plan these sites and to locate them on the ground with a degree of accuracy the oblique photographs were rectified using computer-based techniques. Different methods were used each year. A comparison of these two methods of plotting oblique aerial photographs formed a minor part of the SFSA research project in north-east Fife. For Easter Kinnear 1989 the transcription was made at Glasgow University using the Aerial programme. For Hawkhill 1990 the transcriptions were made using a digital rectification of the whole of the photo image.

The Aerial 2.0 rectification and transcription method designed by John Haig of Bradford University is well established and the most widely used. It has the advantage of being relatively simple, but requires reasonably level ground control and its transcriptions are inadequate for publication standards. Much more technically advanced and evidently more accurate are the plots produced by the Environmental Science Department, Stirling University.

The main problem with the Aerial 2.0 plot of Easter Kinnear is that the 1989 site is located on a

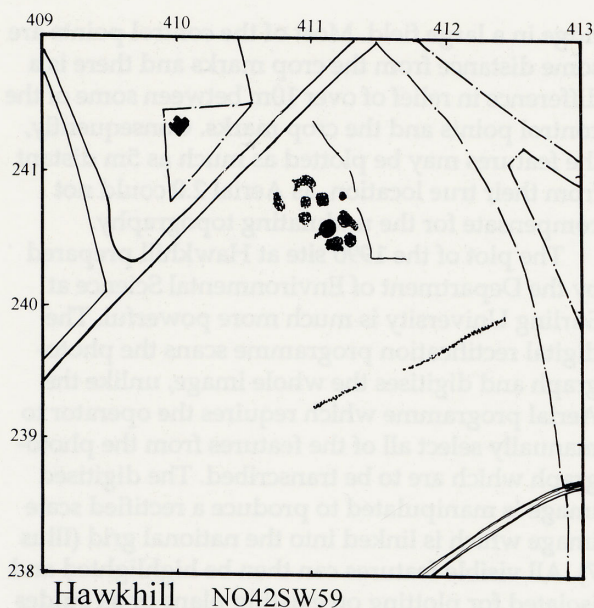
ridge in a large field. Most of the control points are some distance from the crop marks and there is a difference in relief of over 10m between some of the control points and the crop marks. Consequently, the features may be plotted as much as 5m distant from their true location, as Aerial 2.0 could not compensate for the undulating topography.

The plot of the 1990 site at Hawkhill prepared by the Department of Environmental Science at Stirling University is much more powerful. The digital rectification programme scans the photograph and digitises the whole image, unlike the Aerial programme which requires the operator to manually select all of the features from the photograph which are to be transcribed. The digitised image is manipulated to produce a rectified scale image which is linked into the national grid (Illus 7). All visible features can then be highlighted and isolated for plotting on existing plans or as guides for making interpretative drawings.

At the time we felt that the greater convenience and availability of the Aerial 2.0 programme made it more useful, despite the superior output of the Stirling University method. Since then, Aerial version 5.0 has been issued, and it uses the digitised image method.

Transcriptions were made of both sites based upon individual photographs, but the interpretative remarks which follow are based on the entire suite of photographs held by the National Monuments Record of Scotland (NMRS) in 1991. The transcription of Easter Kinnear (Illus 5) shows the most obvious archaeological features in the field east of the modern farm. The features are confined to a gravel ridge, which shows on the photograph as a lighter area in the centre of the field. The most easily recognised of these features is the substantial ring-ditch towards the west end of the ridge. There is no clear sign of an entrance gap in the ring and there is a suggestion of a central pit, so this is likely to be a funerary monument. Immediately to the east of the ring-ditch is a less obvious feature which may represent a second barrow. This narrow ditch appears to define a 5m square and is, therefore, probably Pictish in date (Close-Brooks 1984). There are two other possible archaeological features in this end of the field, neither of them certain. One is a dark splotch which may be a scooped structure and the other is a faint rectangular enclosure.

The main area of interest is at the east end of the ridge near the field boundary, where a sub-rectangular structure shows as a dark crop mark against the lighter gravel background. This is the site that was excavated in 1989. The linear feature running just outside the north-west corner of the splodge, which drew our attention to the site, was consistently observed on photographs taken in different years. Near to the splodge are other dark



Illus 6. An interpretative transcription of the Hawkhill crop marks.

areas which may have an archaeological origin, but their feathery edges suggest that most are silt pockets which probably have a geological origin.

Running over the whole field is a network of linear features, some of which are certainly field boundaries, but it is not possible to distinguish all of the archaeological structures from the linear features which are the result of post-glacial frost-fracturing of the soil. Similarly only a few of the minor numerous crop marks of pits and other features have been represented because of the uncertainty about their archaeological significance.

At Hawkhill (Illus 6) the main archaeological features show as dark amorphous patches against a generally light geological background. The ground occupied by the crop marks falls away from the road gradually towards the Motray Water and most of the features are directly in front of Hawkhill cottage set in its triangular yard. Nearest to the road is an array of five crop marks arranged like spots on a dice. Four are round or oval areas while the fifth is crescent-shaped.

The four rounded patches are of a similar scale to the scoop excavated in 1989 and were recognised as further examples of the Easter Kinnear structures. Crescent-shaped features are characteristic of both prehistoric house stances and of souterrains, but here it seems most likely to represent a scoop where a house has been partially set into the hill-side.

Further downhill and slightly to the south is the tightly spaced cluster of crop marks which was excavated. The largest of these features (known as structure R) has a projecting passageway on the west side (only noticed after the excavation had exposed it). South of this there is an amorphous confusion of crop-marking, which proved to be a

multi-phase sequence of buildings (structures Da, Db and J). North-east of the excavated features is an irregular crop mark, which with the benefit of the excavation experience can be tentatively interpreted as a scooped structure overlain by a later medieval longhouse.

There are a few other dark features of probable archaeological origin, including another possible scoop. Most significant is the zigzagging linear feature north-east of the cluster of scoops, which is apparently an old field boundary. At the foot of the field is a broad linear feature which parallels the modern fence; this is probably a boundary of no great age.

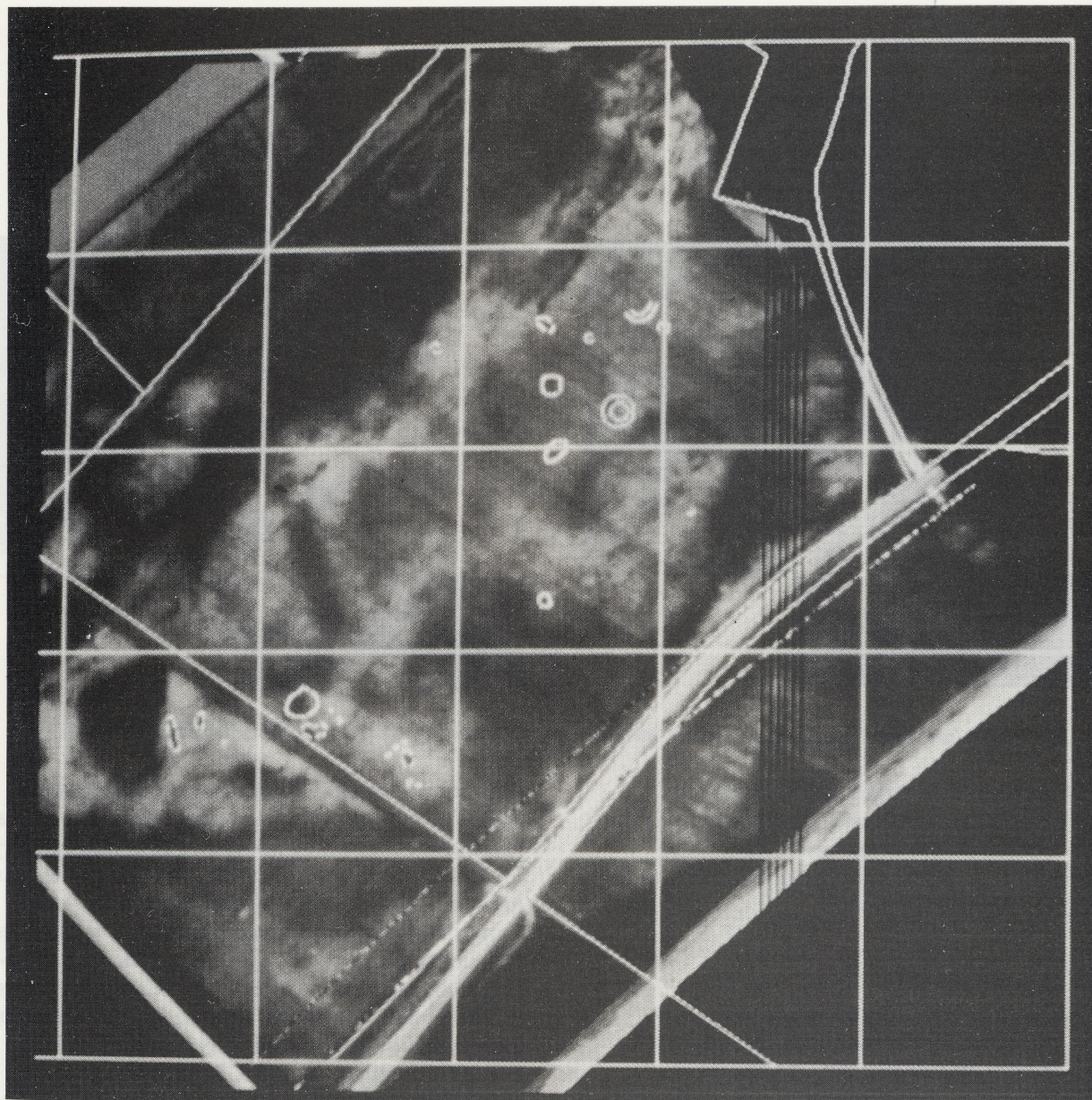
Geophysical survey

A geophysical survey was undertaken by Geophysical Surveys Ltd of Bradford in the autumn of 1990 at the Hawkhill site. The main aim of the survey was to establish the extent of archaeological features. Only the simplified versions of the geophysical plot has been produced in this report (Illus 8 and 9), the full report forms part of the site archive deposited with the NMRS. The survey employed both magnetic and resistivity techniques. Magnetic survey was carried out using a Geoscan FM36 fluxgate gradiometer, with readings being logged at 0.5m intervals along transverses 1.0m apart, ie 800 readings per 20m grid square. Resistance readings were recorded using a Geoscan RM4 linked to a DL10 data logger at 1.0m intervals, ie 400 readings per 20m grid. The data was transferred to a portable computer, which allowed preliminary plots to be printed out while in the field to help lay out the trenches.

Hawkhill survey

The conditions for resistivity survey were generally good with the sands and gravels at Hawkhill producing fairly uniform levels of background resistance. The major feature effecting resistivity results was ploughing, which is responsible for diagonal lines following a north-west to south-east axis. Conditions for magnetic survey were not particularly good as the natural sands and gravels have their own magnetic properties producing a general noisy background, banding in the data and creating broad areas of increased magnetic responses. This has produced geological anomalies that cannot always be distinguished from archaeology making interpretation very difficult. Further problems were caused by igneous rocks used in the construction of the revetment walls of the sunken structures, which produced strong magnetic anomalies. These were originally thought to be associated with possible industrial activity.

Excavation revealed that high readings were



Illus 7. A digitised rectification of an aerial photograph of the Easter Kinnear site prepared by the Stirling University Department of Environmental Science, which highlights actual and possible archaeological features.

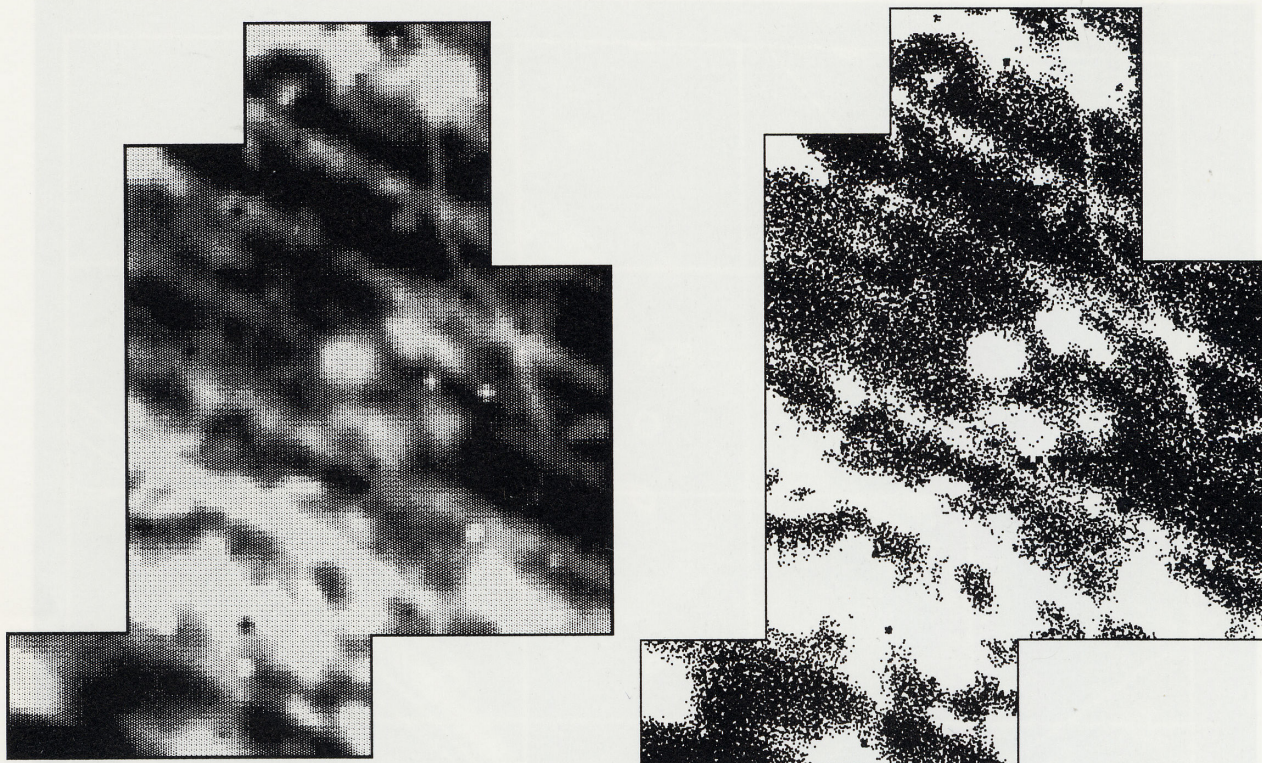
only due to the properties of the rocks. As a consequence it is not possible to interpret the anomalies that were located approximately 20m north-west of the excavated area.

Resistivity results. The resistivity survey revealed distinct areas of low resistance, which were clearly associated with the archaeological scoops (Illus 8). By plotting the results in the field it was possible to mark the location of the features on the ground and thus accurately position the excavation trenches. The clearest feature identified in the surrounding area of the scoops is a low resistance linear feature, interpreted as a ditch. This follows a straight course and then curves, apparently around the habitation features, suggesting it is contemporary with the latter. The fact that this feature was not

detected with the gradiometer is due to the lack of magnetic contrast between the feature fill and the natural subsoil.

Magnetic survey results. The magnetic survey revealed evidence of another five magnetic anomalies of potential archaeological interest not identified by resistivity survey. An area in the north highlighted anomalies originally thought to indicate industrial activity, however, as stated above, the reading may simply have been caused by igneous rocks.

Although the geophysical work at Hawkhill has successfully located the archaeological features visible on aerial photographs, the survey has demonstrated many of the problems that exist with regard to the interpretation of the results at the



Illus 8. Results of resistivity survey results at Hawkhill, a 460–575 Ohms plot (left) and a 475–650 Ohms plot (right).

site. This is particularly the case with magnetometer readings on sands and gravels where natural bands of more magnetic material can confuse matters. The complications are compounded where igneous rocks are also present.

Easter Kinnear survey

Geophysical survey was also carried out on the ridge around the site of the 1989 excavation. An area including the trench and a portion to the north was examined to try and clarify the form of a possible building (structure G) just within the trench (see below p 90). Not only could this feature not be located, but neither could the main scooped feature excavated in 1989. This is rather disappointing given that the scoop is over 10m across and over 1m deep.

Further along the ridge to the west an area around the prominent ring-ditch crop mark was surveyed. Here the intention was to clarify whether this was a barrow and if it had neighbours. The survey seems to confirm the interpretation of the crop mark as a barrow, if the central anomaly can be taken as a grave pit. No associated features were recognised.

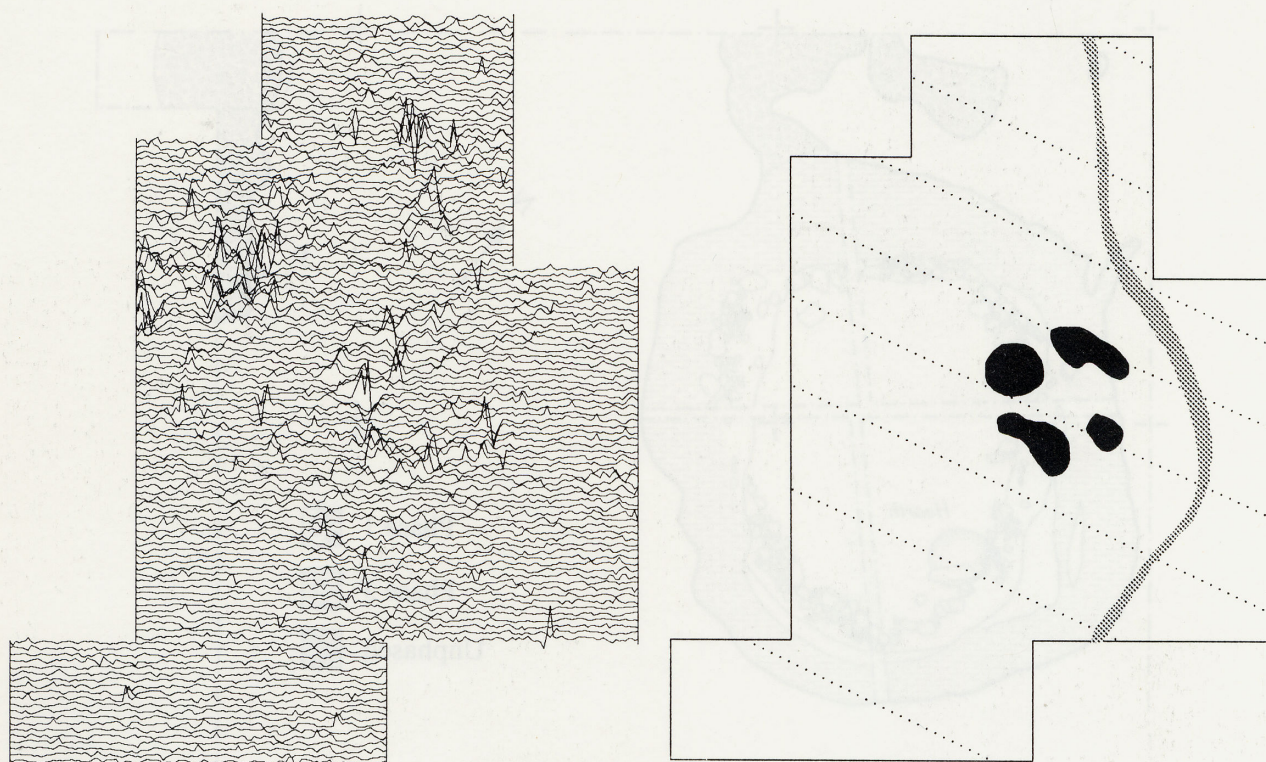
The excavations: strategy and method

Due to the nature of crop-mark sites, plough truncation is to be expected. Both at Easter Kinnear and Hawkhill this damage could be assessed through

the pattern plough furrows had cut into the subsoils. They suggest that the archaeological features had been truncated by between 0.25m and 0.5m by medieval and later agriculture. The Easter Kinnear gravels are banded and variable in colour (from brown to orange) and texture (from coarse gravel to fine sands and silts). As a consequence, feature recognition can be difficult and the edges of features can be elusive, especially because of the softness of the gravels. Where the subsoils consisted of silty fills within natural hollows, it proved impossible to recognise features at all. The dark infilling of the scooped structures presented a similar problem; later features cut into the them could not be traced.

Both sites are located in fields that are intensively cultivated, so excavations were timed to start after the harvest in late August and ran for four weeks. The trenches were chosen to ensure that features immediately outside the principal crop-mark features were also exposed. The 1989 trench was 20m by 25m, while in 1990 a less ambitious (but still too large) area 20m square was opened up.

The crop marks were located in the field by reference to the aerial photographs and transcriptions of the crop marks. In 1989 the precise location of the main feature was pin-pointed by the presence of a concentration of grass and weedy growth at ground level below the crop. Remarkably these areas of small plant growth correspond closely to the deep archaeological features cut into the subsoil. In 1990 the information of the aerial photographs and weedy growth was supple-



Illus 9. Results of magnetometer survey at Hawkhill, wire mesh plot (left), interpretative plan showing location of house stances, a field boundary and modern cultivation (right).

mented by the preliminary geophysical survey.

The topsoil was stripped by machine to within a few centimetres of the subsoil surface, which was then cleaned by hand until the features could be seen cut into the subsoil. Because of the difficulties of working such variable sands and gravels and the blurring of the interface between the cultivated soil and the subsoil, finds from the initial surfaces were located by 5m squares. In the event these finds could not be shown to correspond closely to the subsoil features.

Once the principal features were located, standing baulks were laid out to divide the large features into quadrants and provide vertical control. Other features were excavated selectively with efforts focused on determining relationships between features. During excavation it was not always clear which elements of the most extensive features went together, so stretches of ditch and walling often acquired more than one context number. Artefacts below the plough zone were recorded by context and 3-D location. Environmental samples were selectively taken from the major features. These were principally to recover macro-plant remains, so contexts particularly rich in charcoal were more heavily sampled.

The Easter Kinnear site (Illus 10)

Summary

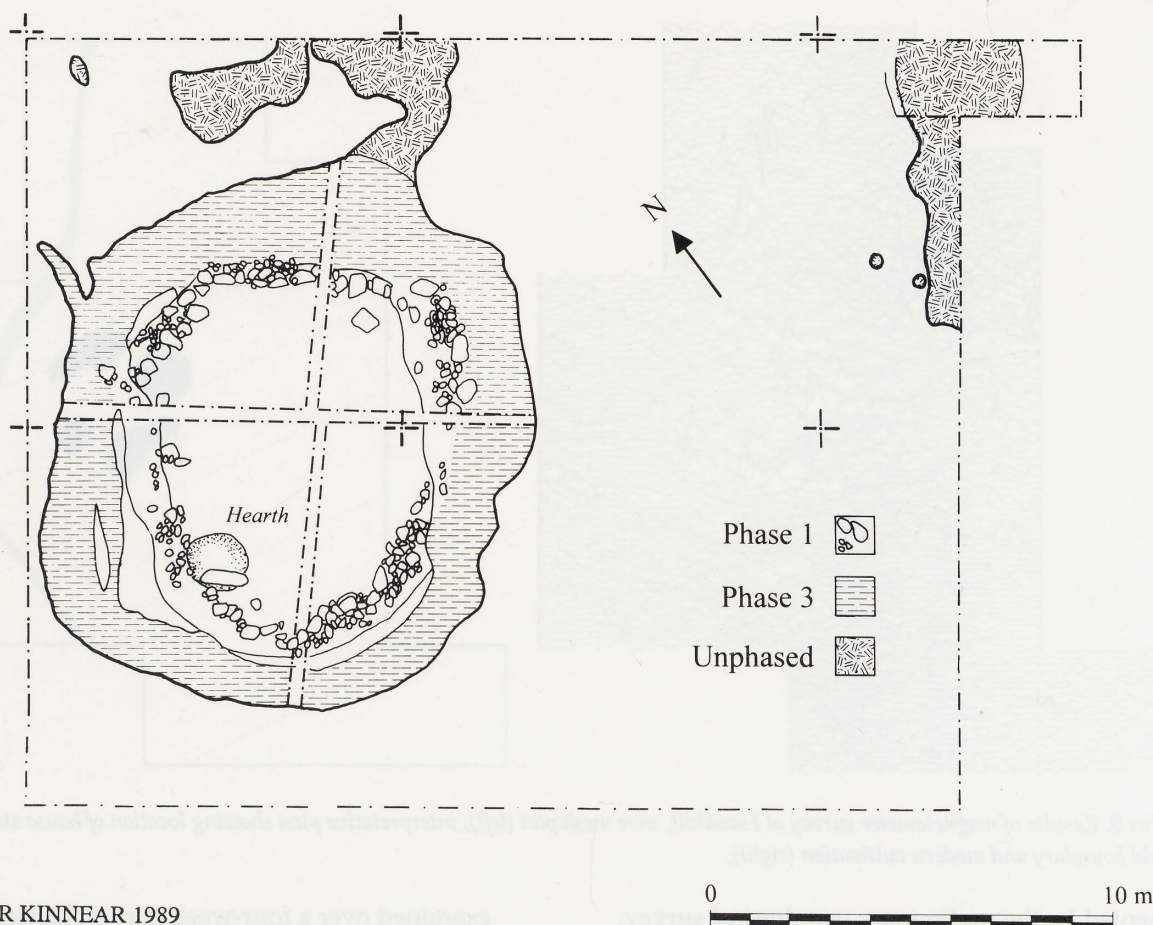
In August 1989 an area of 20m by 25m was

examined over a four-week period, blessed by fine weather. The main feature discovered during excavation was a large sub-rectangular scooped structure with stone revetting walls. Following its abandonment and the filling of the scoop, the stance was reoccupied by a sequence of up to five similar-sized buildings built of wattle and daub. The wattle buildings were identified by their construction trenches, which surrounded and intersected the original scooped building. These trenches apparently held timber and wattle walls.

Approximately 10m to the east of the scoop on the summit of the ridge and at the edge of the excavation a linear feature, structure G, was recorded. This feature was not visible on the aerial photographs. This was apparently part of a larger, possibly rectangular, building constructed in a shallow ditch with regularly spaced stone settings, possibly to support posts. Its full plan was not revealed.

Structural sequence

Phase 1: the scooped structure. The earliest feature identified was the large scooped structure which had been identified by aerial photography (Illus 4). This scoop occupied an area of 12m east-west by 10.5m north-south to a depth of 1.1m below the top of the subsoil (or about 1.5m below the modern ground surface). The scoop was constructed by cutting into the soft sands and gravels and retain-



EASTER KINNEAR 1989

Illus 10. A phased plan of the Easter Kinnear site.

ing the sides with a coarse drystone wall (140). This wall was built of water-worn boulders and large rounded stones (up to 0.7m in diameter), which must derive from the immediate glacial subsoil. The material is not ideal for building, being variable in size and rounded. As a result the wall is loose and not particularly stable.

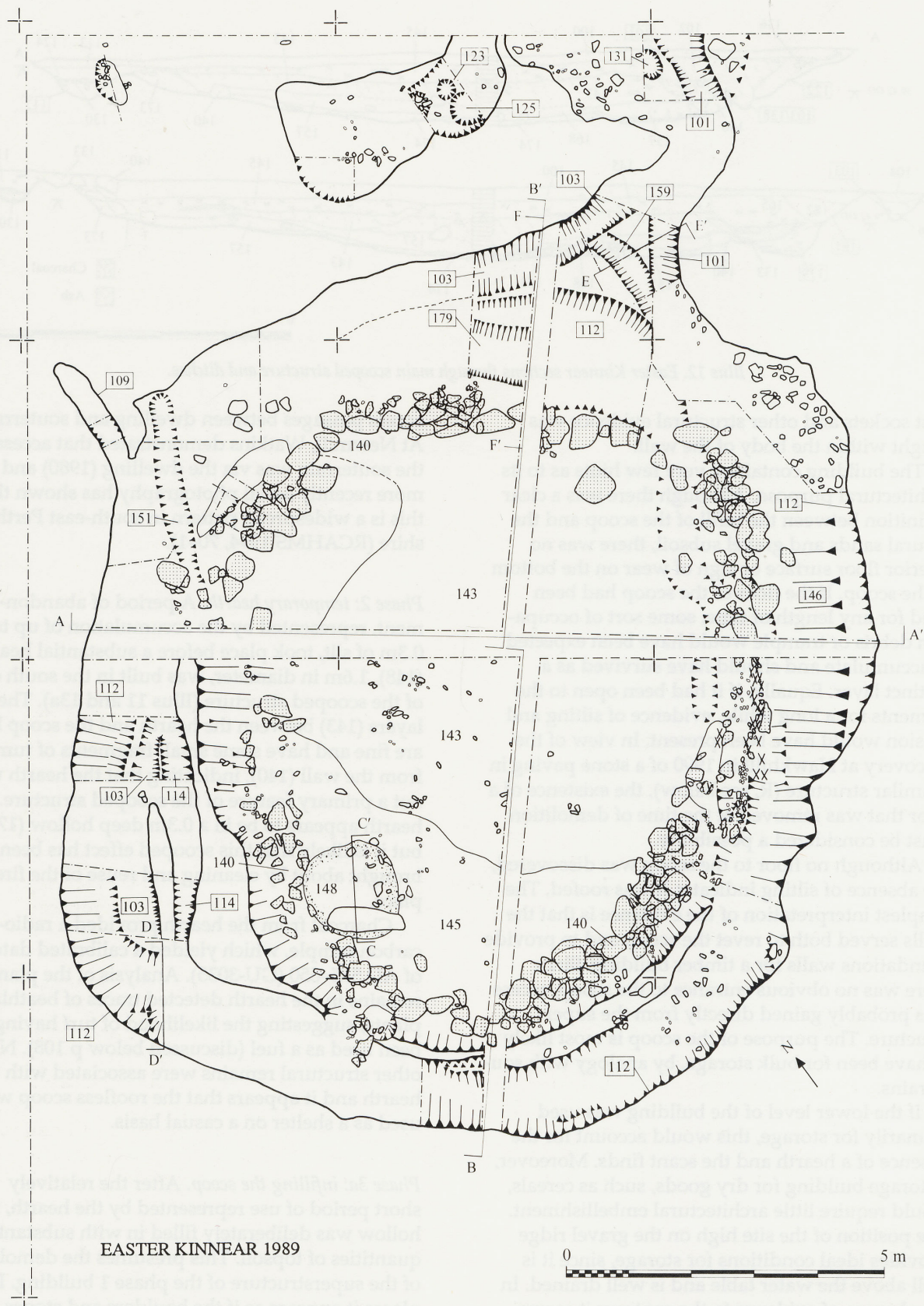
In plan the structure appears to be approximately square with round corners and a narrower southern half (Illus 11). However, it must be noted that the complete plan of the original structure was not recovered because the subsequent building work had removed sections of walling. The wall (140) was particularly straight on the north side and was built with what appear to be angled corners. The east and west walls were poorly preserved, having been heavily disturbed by later building, however, they appear to have run approximately parallel before tapering to a rounded south end. No deliberate gap or other sign of an entrance way was observed. The overall dimensions of the interior area was 7m by 10m. Relatively little stone was recovered from the infilled interior, which suggests that the walls projected very little above ground level, perhaps by no more than 0.25–0.5m.

No interior features contemporary with the

original use of the scoop were recovered. In particular, there was no sign of a floor or a hearth. The base of the scoop was soft sand and gravel with no evidence of occupation debris. If a contemporary hearth had stood on this surface evidence of it would certainly have been recovered.

Phase 1: interpretation. There were no samples that could provide material for radiocarbon dates for the phase 1 structure, nor were there contemporary artefacts. However, there appears to have been little time lapse between the abandonment of the scooped structure and the construction of a temporary hearth (phase 2), which provided a radiocarbon date of AD 575–650 (GU-3035). This date is statistically indistinguishable from the phase 3 dates, suggesting that the site was continuously occupied.

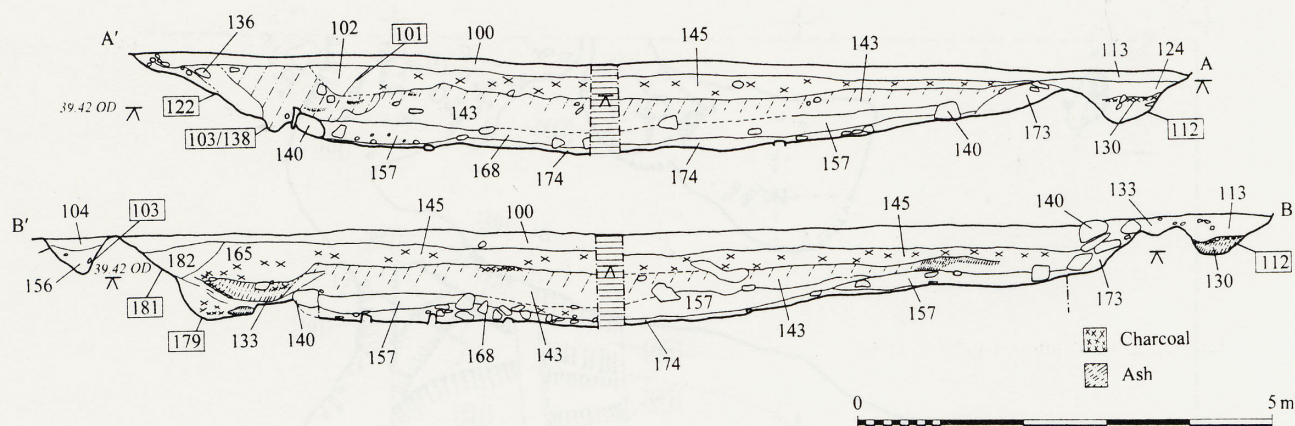
Moreover, on structural grounds it seems that the scooped structure is close in age to the phase 3 buildings. Following the infilling of the scoop, these subsequent buildings reused the original stance almost exactly. This positioning suggests that not only was there continuity of settlement, but also that the time between phases was quite short. In short, we should regard the scooped building as having been occupied between the 6th and 7th centuries AD.



Illus 11. Easter Kinnear, detailed plan of scooped structure and associated ditches.

With respect to the structural remains, it is most likely that the wall provided a foundation for a timber superstructure. Evidence for this timber building was very slight, a few burnt fragments of

wattle and daub recovered from the infill of the scoop may indicate the nature of the superstructure. In situ evidence for the superstructure was not identified during excavation, although



Illus 12. Easter Kinnear sections through main scooped structure and ditches.

post sockets and other structural evidence was sought within the body of the wall.

The building contained very few hints as to its architectural purpose. Although there was a clear definition between the infill of the scoop and the natural sands and gravel subsoil, there was no interior floor surface or sign of wear on the bottom of the scoop. If the floor of the scoop had been used for any length of time, some sort of occupation debris or trample would have been expected to accumulate and should have survived as a distinct layer. Equally, if it had been open to the elements for a long while, evidence of silting and erosion would have been present. In view of the discovery at Hawkhill in 1990 of a stone paving in a similar structure (R, see below), the existence of a floor that was removed at the time of demolition must be considered a possibility.

Although no floor to the scoop was discovered, the absence of silting indicates it was roofed. The simplest interpretation of the evidence is that the walls served both to revet the scoop and to provide foundations walls for a timber building. Since there was no obvious entrance to the scoop, access was probably gained directly from the superstructure. The purpose of the scoop is most likely to have been for bulk storage, by analogy with souterrains.

If the lower level of the building was used primarily for storage, this would account for the absence of a hearth and the scant finds. Moreover, a storage building for dry goods, such as cereals, would require little architectural embellishment. The position of the site high on the gravel ridge provides ideal conditions for storage, since it is well above the water table and is well drained. In the absence of evidence to the contrary it seems reasonable to regard this as a domestic dwelling with a substantial cellar. A storage facility of this size would not be surprising in this area with its strong tradition of intensive cereal production. Moreover, as has been established elsewhere, a Late Iron Age architectural tradition featured

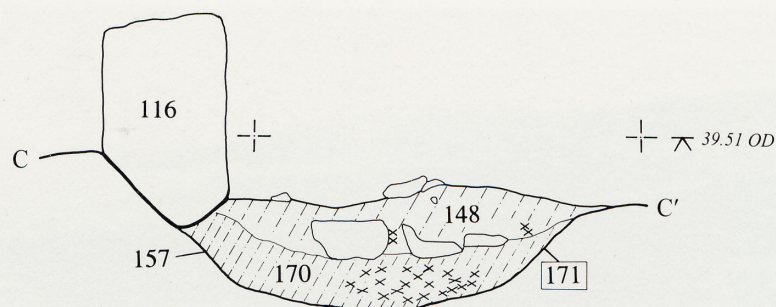
access passages between dwelling and souterrains. At Newmill, Watkins demonstrated that access to the souterrain was via the dwelling (1980) and more recently aerial photography has shown that this is a widespread pattern in south-east Perthshire (RCAHMS 1994, 70-1).

Phase 2: temporary hearth. A period of abandonment, represented by the accumulation of up to 0.3m of silt, took place before a substantial hearth (148), 1.6m in diameter, was built in the south end of the scooped structure (Illus 11 and 13a). The silt layers (143) between the hearth and the scoop base are fine and have some small fragments of tumble from the wall (140), indicating that the hearth was not a primary feature of the scooped structure. The hearth appears to be in a 0.3m deep hollow (171), but it is likely that this scooped effect has been brought about by cleaning and reuse of the fire place.

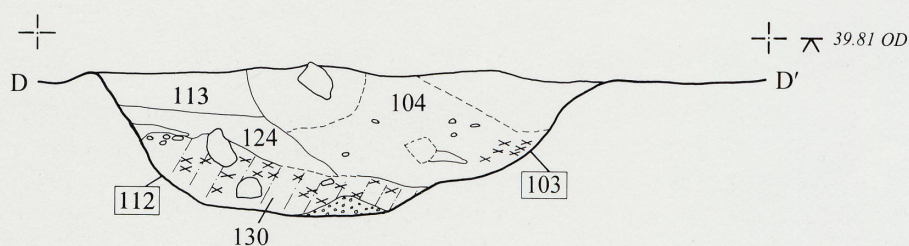
Charcoal from the hearth provided a radio-carbon sample, which yielded a calibrated date of AD 575-650 (GU-3035). Analysis of the plant remains in the hearth detected traces of heathland plants, suggesting the likelihood of turf having been used as a fuel (discussed below p 108). No other structural remains were associated with the hearth and it appears that the roofless scoop was used as a shelter on a casual basis.

Phase 3a: infilling the scoop. After the relatively short period of use represented by the hearth, the hollow was deliberately filled in with substantial quantities of topsoil. This presumes the demolition of the superstructure of the phase 1 building. In places it appears as if the boulders and stones from the walls were pushed into the scoop during the filling operation. The filling was certainly deliberate as there was no evidence of a gradual, natural silting. The fill exhibited characteristics of quick deposition; numerous local tip lines were observed during excavation (see Illus 12).

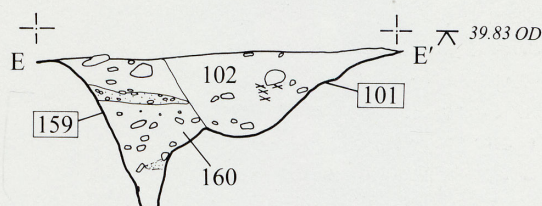
EASTER KINNENAR 1989



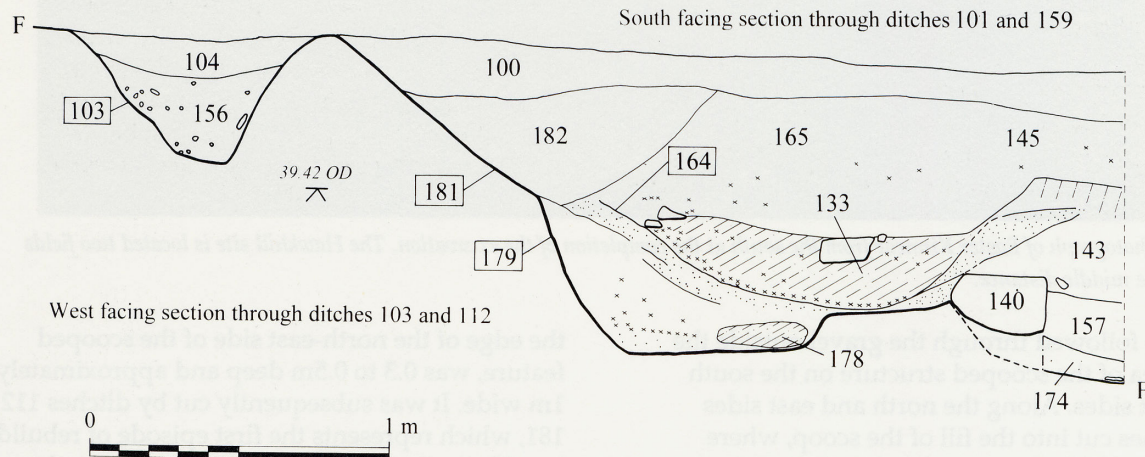
East facing section through Hearth 148



West facing section through ditch 112



South facing section through ditches 101 and 159



West facing section through ditches 103 and 112

Illus 13. Easter Kinnear detailed sections of hearth and ditches: C-C' Phase 2, east-facing section through hearth 148; D-D' Phase 3, west section showing relationship between ditches 112 and 103; E-E'; Phase 3, south-facing section showing relationship between ditches 101 and 159; F-F' Phase 3, west-facing section showing relationship between ditches 103, 181, 179 and the scooped structure (Phase 1).

Phase 3b: the wattle and daub buildings. After the in-filling of the scoop a series of buildings were constructed in virtually the same position as the scooped structure (Illus 10). The structural evidence for these buildings consisted of a series of ditches that ran around, overlapped and intersected the scoop. Individual ditches were difficult to trace for their complete circuit and often blurred into each other. Where the ditches cut through the

fill of the scoop they were completely lost. However, overall they can be seen to follow the outline of the phase 1 scoop (Illus 14).

Evidence for as many as five different builds was recovered as a sequence of cuts and recuts of the foundation trench. All are attributed to phase 3. Despite looking at the intersections, an absolute sequence was not recorded. The best-preserved wall trench (112) was the most substantial and



Illus 14. Photograph of Easter Kinnear from the south at the completion of the excavation. The Hawkhill site is located two fields away in the middle distance.

could be followed through the gravel outside the main area of the scooped structure on the south and west sides. Along the north and east sides the ditches cut into the fill of the scoop, where the scattered phase 1 stonework and disturbed stretches of the phase 1 walls show the approximate lines of the ditches, which enclose a rectangular area.

The south-west corner was the only corner to be clearly represented, because the various ditches followed the exact same line here. At this point the ditches turn a right angle. Overall it appears that the phase 3 buildings were nearly the same size and proportions of as the phase 1 scoop, but, judging from the crispness of the south-west corner, the plan may be assumed to have been square or rectangular.

The proposed sequence of ditches is as follows (see Illus 13.b-d). The first ditch (179), identified at

the edge of the north-east side of the scooped feature, was 0.3 to 0.5m deep and approximately 1m wide. It was subsequently cut by ditches 112/181, which represents the first episode of rebuilding. The second ditch (112) was the most substantial (up to 1.2m wide) and contained large amounts of burnt wood ash. We have interpreted this as the burnt remains of the earliest building.

The second ditch (112) was subsequently cut by ditches 146 and 103. Ditch 146 cut the second wall trench (112), but no direct stratigraphic relationship was established between it and ditch (103): it is tentatively regarded as the third in the sequence. This trench followed the same approximate line established by (112), and as a result was only visible on the east side. Ditch 146 was also substantial and approached the size of a second ditch (112).

Ditch (103) deviated from the earlier line only

on the west side, where it wandered to the outside of ditch (112) before eventually crossing back to the inside. It had a narrow base and overall was much less substantial than ditch (112) with a maximum width of only 0.7m wide. It also extended outside the circuit on the north side where it may represent an integral fence line.

A final ditch (159) was a steep-sided narrow slot just 0.5m deep, which was also cut by (103). This trench was very similar to the other narrow trench (103) in being steep sided and in tapering to a narrow slot at the base. This final ditch (159) was only traced in the north-east side of the scooped structure on the outer edge of ditch (112) and, although late, cannot be exactly located in the sequence.

All ditches in phase 3(b) contained charcoal and burnt wood fragments, most of which are presumed to come from the initial burnt debris. The continued use of the position and the similarity of form suggests that all these trenches provided bedding for wattle walling.

Phase 3b: external features. In addition to the ditches associated with the buildings there were other ditches that ran outside the building stance. The latest ditch in the sequence (101) cut both ditches (103) and (146) and was slighter than the rest. It had a steep-sided and flat-bottomed profile but was only 0.4m deep and 0.6m wide. This ditch (101) cut into the north-east side of the main scooped structure and extended northwards beyond the main feature. This ditch did not correspond closely to the shape of the original scooped structure and may represent a fragment of a smaller building on a different stance or more likely a fence.

A series of other ditches (133, 144, 110, 109, 151) were recovered on the east side of the scoop. These ditches were narrow, shallow features, much less substantial than those identified as wall trenches, being no more than 0.35m wide and between 0.08 and 0.15m in depth.

Seven separate post-holes were found clustered outside of the main scoop to the north. No clear pattern or plan could be seen from their positioning, nor could they be linked with any of the other features stratigraphically. They may belong to any phase.

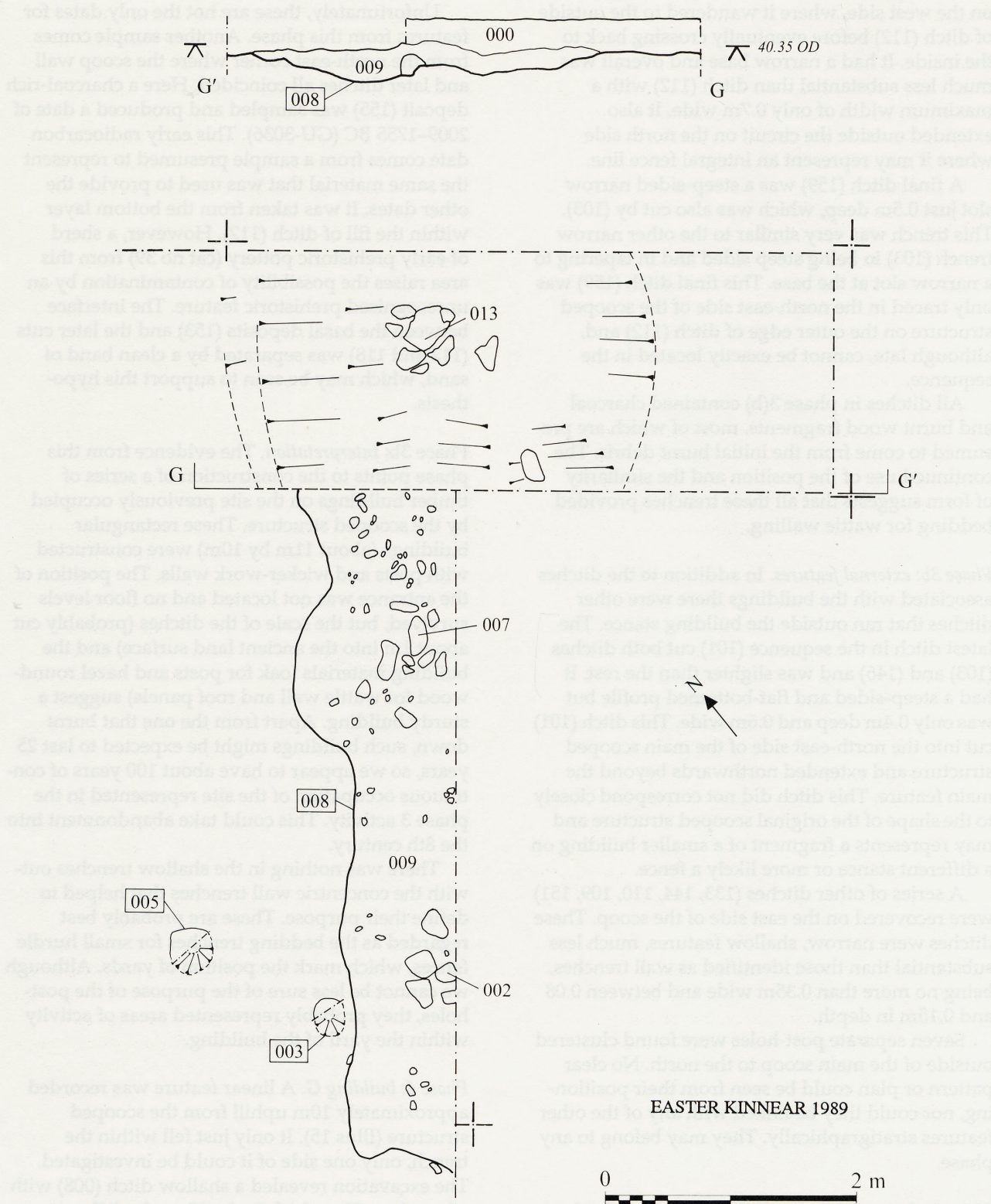
Phase 3: dating. The most secure date for this phase of construction comes from charcoal within ditch 112, contexts 133 and 124. This charred round wood was presumably from a wattle-walled building which had burnt down. Sample GU-3033 produced a calibrated date of AD 556–650 and GU-3034 one of AD 581–654. Taken together with the sample from the hearth, this forms a remarkably tight group of dates, all pointing to activity in the mid-6th to mid-7th centuries AD.

Unfortunately, these are not the only dates for features from this phase. Another sample comes from the north-east corner where the scoop wall and later ditches all coincided. Here a charcoal-rich deposit (155) was sampled and produced a date of 2009–1755 BC (GU-3036). This early radiocarbon date comes from a sample presumed to represent the same material that was used to provide the other dates. It was taken from the bottom layer within the fill of ditch (112). However, a sherd of early prehistoric pottery (cat no 39) from this area raises the possibility of contamination by an unrecognised prehistoric feature. The interface between the basal deposits (153) and the later cuts (112 and 118) was separated by a clean band of sand, which may be seen to support this hypothesis.

Phase 3b: interpretation. The evidence from this phase points to the construction of a series of timber buildings on the site previously occupied by the scooped structure. These rectangular buildings (about 11m by 10m) were constructed with posts and wicker-work walls. The position of the entrance was not located and no floor levels survived, but the scale of the ditches (probably cut about 1m into the ancient land surface) and the building materials (oak for posts and hazel roundwood for wattle wall and roof panels) suggest a sturdy building. Apart from the one that burnt down, such buildings might be expected to last 25 years, so we appear to have about 100 years of continuous occupation of the site represented in the phase 3 activity. This could take abandonment into the 8th century.

There was nothing in the shallow trenches outwith the concentric wall trenches that helped to define their purpose. These are probably best regarded as the bedding trenches for small hurdle fences, which mark the position of yards. Although we cannot be less sure of the purpose of the post-holes, they probably represented areas of activity within the yard of the building.

Phase 4: building G. A linear feature was recorded approximately 10m uphill from the scooped structure (Illus 15). It only just fell within the trench, only one side of it could be investigated. The excavation revealed a shallow ditch (008) with a broad profile, which is significantly different from the narrow slots of the phase 3 structures discussed above. The most distinctive feature of the ditch fill were three stone settings (002, 007, 013). These do not appear to mark post-holes, rather they provided firm, level surfaces and should probably be regarded as post pads. Two small post-holes (003, 005) were also recovered close to this ditch and may be related, although they showed no particular alignment.



Illus 15. Easter Kinnear, plan and section of trench identified as building G.

Unfortunately, the failure of the geophysics to identify this feature prevents us from arriving at any firm conclusions apart from noting that it was aligned with the axis of the ridge and the other buildings. The straightness of the feature as excavated may suggest that it was part of a rectangular building.

Phase 4: interpretations. The structure at the south end of the excavation area would appear to be part of a building located on the crest of the gravel ridge, although we can say little about its form. There is no stratigraphic reason or any other dating evidence to allow us to associate this feature with any other phase. However, the

structure of the ditch and its fills suggest that we are observing a different building method. This difference may relate to either date or function. The apparent straightness suggests a rectangular plan which might be late in the overall sequence (and for that reason alone has been ascribed to phase 4).

The Easter Kinnear buildings

The settlement at Easter Kinnear has produced evidence for an intensive period of occupation and of architectural variety. Its position in the landscape and the scant finds are consistent with a farming settlement of modest material wealth. The repeated reuse of the scooped building's stance by later buildings suggests stability which extended over several generations, in itself a sign of a degree of success. The traces of other structures near to the main scoop suggest that this was part of a larger settlement which is invisible on the aerial photographs due to the variable subsoils. We might expect the bulk of the settlement to occupy the level crest of the ridge, but the true crest was some 10m beyond our trench. This suggestion is supported by the presence of structure G.

We consider the phase 1 and 3 structures to be dwellings, although in the absence of surviving floor levels we recognise that they could have served as outbuildings. It is argued that the phase 1 scooped feature is best explained as the cellar of a timber dwelling, not least because of the subsequent reuse of the site. In so doing, we are postulating an extension of the tradition of subterranean storage prevalent in the region. There was no evidence for the superstructure of the scooped building, but it seems likely to have been of timber and perhaps was similar to that built in phase 3.

The phase 3 timber structures seem to have used construction techniques that had been available for centuries (eg Kendrick 1995). Significantly, the round-house plan had been discarded in favour of a rectangular form. There is little dating evidence for the occupation of the site, but it seems clear enough that we are dealing with structures inhabited in the later part of the first millennium AD. The three secure dates point firmly to the mid-6th to mid-7th century for this development of a rectangular plan.

A broader period of activity can be read into the artefactual record. Apart from the single residual Neolithic sherd, there is nothing that would not have been used from the 3rd to the 11th century AD. Any extension of the period of activity depends upon the chronology of rotary querns as currently understood (Mackie 1972). The Easter Kinnear assemblage includes querns of Early and Late Iron Age date. All are fragmentary and come from the walling of the phase 1 scooped building

apart from the one recovered from the plough zone. Given the relative scarcity of building stone in the area it seems reasonable to argue that these quern fragments were hundreds of years old when incorporated into the wall. It is quite clear, however, that a dated typology for early medieval Scottish quern-stones would allow us to assess better the significance of the forms represented here.

At the other end of the time range, there is scarcely any Scottish East Coast Gritty ware (SECWGW) pottery from below the plough zone, and none securely stratified. SECWGW was probably being made in the St Andrews or Leuchars area between the 12th and 15th centuries (Laing 1971, 1973; McCarthy and Brooks 1988, 212-5). This scarcity is significant because it suggests complete abandonment of this portion of the gravel ridge by the 12th century.

During the excavation of North Straiton (Watkins 1987 and 1988), the excavators became sensitive to the position of medieval pottery in the plough zone. There SECWGW was clearly associated with pre-modern plough furrows, but all the settlement was prehistoric and produced prehistoric pottery. It was then concluded that the SECWGW had arrived in the soil mixed with manure. Had the Easter Kinnear site been occupied in the 12th century it would have been reasonable to expect to find SECWGW in stratified contexts, but all of the medieval pottery on the site can be accounted for by manuring.

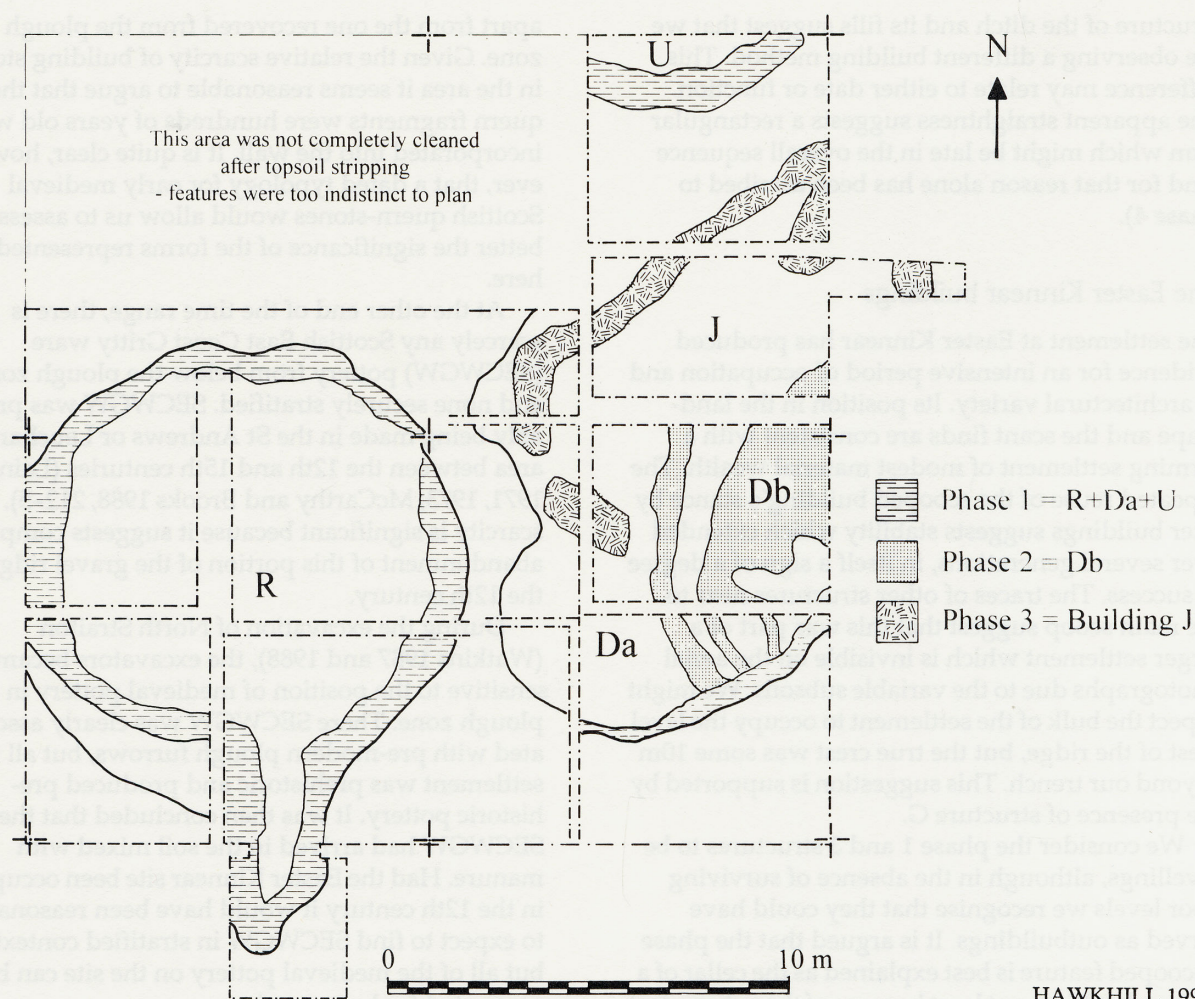
On balance it seems that the Easter Kinnear farm was aceramic and occupied between the 6th and 7th centuries, surviving perhaps until the 8th and certainly abandoned by the 12th century. In short it was a Pictish farmstead, perhaps a dependent settlement within the Kinnear estate.

The dating of this site has been discussed in detail because, as it turned out, the 1989 excavations produced the best dating evidence, which was used to provide a chronology for the structures excavated in 1990. The more widespread significance of these sites for the study of early medieval Scotland is discussed at the conclusion of the report.

The Hawkhill site

The excavations at Hawkhill were preceded by a geophysical survey of the site, which helped to pinpoint the trench over the crop marks, which would otherwise have been difficult given the large size of the field and its undulating nature. An area of 20 square metres was opened up mechanically, but due to the density of the structures only three quarters of this area was investigated. The remaining part was not even cleaned, which is why there are no plans for the north-east quadrant.

The excavation revealed five major structures



Illus 16. A phased plan of the Hawkhill site.

of three different types (Illus 16). Phase 1 is represented by three scooped structures, similar to the earliest excavated at Easter Kinnear in 1989. The entire plan of one building (R) was examined, and portions of two others (Da and U) fell within the trench. Phase 2 was represented by building Db, which was a stone-built structure built over scoop Da. Phase 3 was represented by a rectangular stone structure, building J, which cut into structure Db.

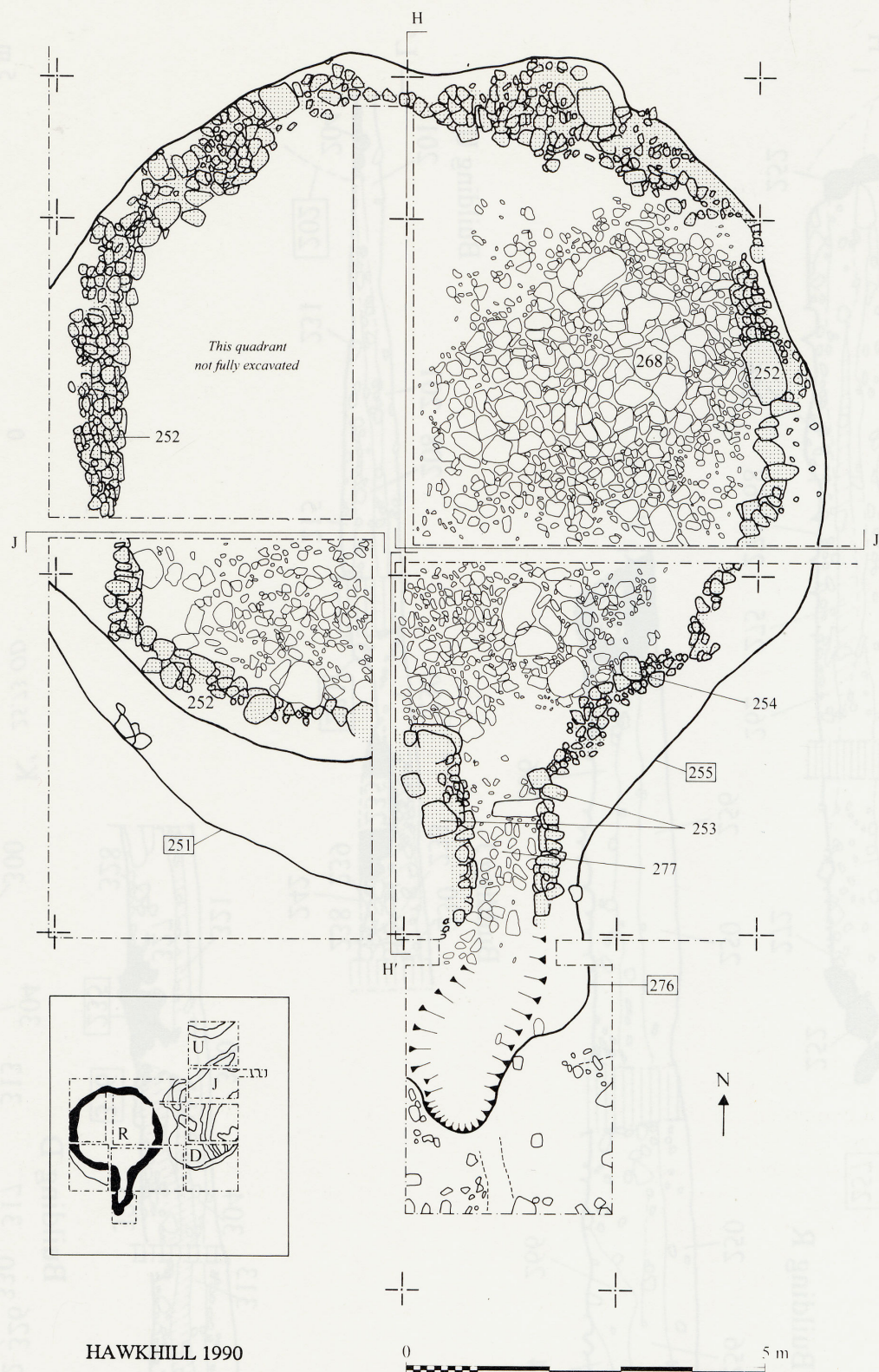
Phase 1: scooped buildings. Building R was a smaller example of the scooped structure excavated in 1989 at Easter Kinnear. This structure was a single-phased building, consisting of a scoop cut into the natural sands and gravels to a depth of up to 1.4m (Illus 17). The area defined by the revetting walls was 9m by 8m, which was smaller than the 1989 scoop by about 2m in both directions. Unlike the 1989 scoop, building R had a stone paved floor and an entrance passage.

The scoop of building R was retained by a wall of naturally occurring glaciated stones and boulders (252). The position of the masonry did not conform exactly to the scoop and in places the

thickness of the masonry and packing soil was greater than 1m. The entire original shape of the structure was not clear due to collapse of the stone walling (particularly in the south-east), however, it appeared to have distinct corners, although they do not make right angles. Some stretches of wall were fairly straight so it would be fair to describe it as being sub-rectangular.

The entrance consisted of a sloping ramp extending out from the south side of the scoop. Stone revetting was present on both sides of the passage for a length of about 3m but the scoop of the passage extended for another 2m or so. Towards the bottom of the passage, about a metre from the interior, was a large slab that extended across most of the passage and projected slightly above the surface. Here the revetting was made of large stones set on edge. Together these stones must represent a threshold, where a door was placed.

The presence of a floor consisting of large boulders and rounded stones (268), similar to those which made up the walls, was a major difference from the 1989 scoop. Where examined closely, the surface of this floor was quite rough and uneven.



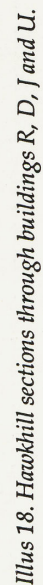
HAWKHILL 1990

Illus 17. Hawkhill plan of building R.

Although only about three quarters of the scoop was fully emptied, the standard of the flooring was consistently rough. As in 1989 there were no occupation deposits or evidence of roof supports. In particular there was no evidence for a hearth, although some uncertainty must remain with regard to this as the entire floor area was not

exposed.

Judging from the height of the surviving walls and the volume of stone deliberately collapsed into the scoop at the time of demolition, the walls of building R may have stood about 0.5m higher. This would bring them close to the modern ground surface.



As in 1989, it was clear that the scoop was deliberately filled in, mostly with gravel and topsoil (250, 256), but also including large stones, some of which were obvious wall collapse. We can be sure that the scoop was deliberately filled in because there were no signs of silting (Illus 18). There was variability within the fill. In particular the bottom layers consisted of loose rubble suggesting that the infill was quick and deliberate. It was evidently clean when it was filled in. No samples which could provide radiocarbon dates were recovered from the scoop and there were few artefacts, all of stone.

Building Da lay to the east of building R and exhibited a much more complex history of rebuilding (Illus 19). No stratigraphic links existed between Da and the other scooped structures. In its initial form Da was a scooped structure similar in construction to building R, but noticeably smaller, being only 6m by 5m in plan and 1.1m deep. This structure was more oval than rectangular, although since it extended beyond the excavation area and had been subsequently altered, its original form is obscure.

For much of its length the original scoop (301) had been robbed of its revetting wall (302). Only a 4.6m length of the remaining wall survived along the south side where it had been incorporated into the later structure. As with building R, the original scoop for Da was deliberately filled in. But unlike building R, there was clear evidence for reuse which took the form of a stone paving (Db).

Building U was the least completely excavated of the three scooped structures examined. Only a small portion of the structure was seen on the north edge of the trench. The excavations were only extended deep enough to confirm the nature of the stonework and the scoop was not bottomed. Building U had no direct stratigraphic relationship to any other structure. As excavated it consisted of a scoop containing a boulder built revetting wall (204) which was up to 1m wide in places. Since only 6m of one side were exposed it is impossible to specify its overall dimensions.

Phase 1: interpretation. The absence of dating evidence from any of the three scoops has meant that any chronology must be derived from the 1989 site, notwithstanding the fact that these buildings illustrate a range of structural features not observed in the 1989 scooped building. The entrance-way and paving of building R show that access to the lower level was intended, but do not help to resolve the question of whether this was a living space or a cellar. The coarseness of the paving and the apparent absence of a hearth could be taken as a sign that storage was the primary function, but there is no evidence to help resolve the question of whether there was living space above. On balance,

the evidence from the 1990 season seems to reinforce the interpretation of these scoops as the cellars of timber houses.

The close proximity of the other, apparently contemporary, scooped structures, raises several possibilities regarding the size of the settlement. There is no reason to believe that these scoops were not in use at the same time and that Hawk-hill, therefore, represents a hamlet. The deliberate infilling can be explained by the need to remove a hazardous nuisance in an area where settlement clearly continued for some time. Why the storage area represented by the scoops went out of use is a question which is explored further below.

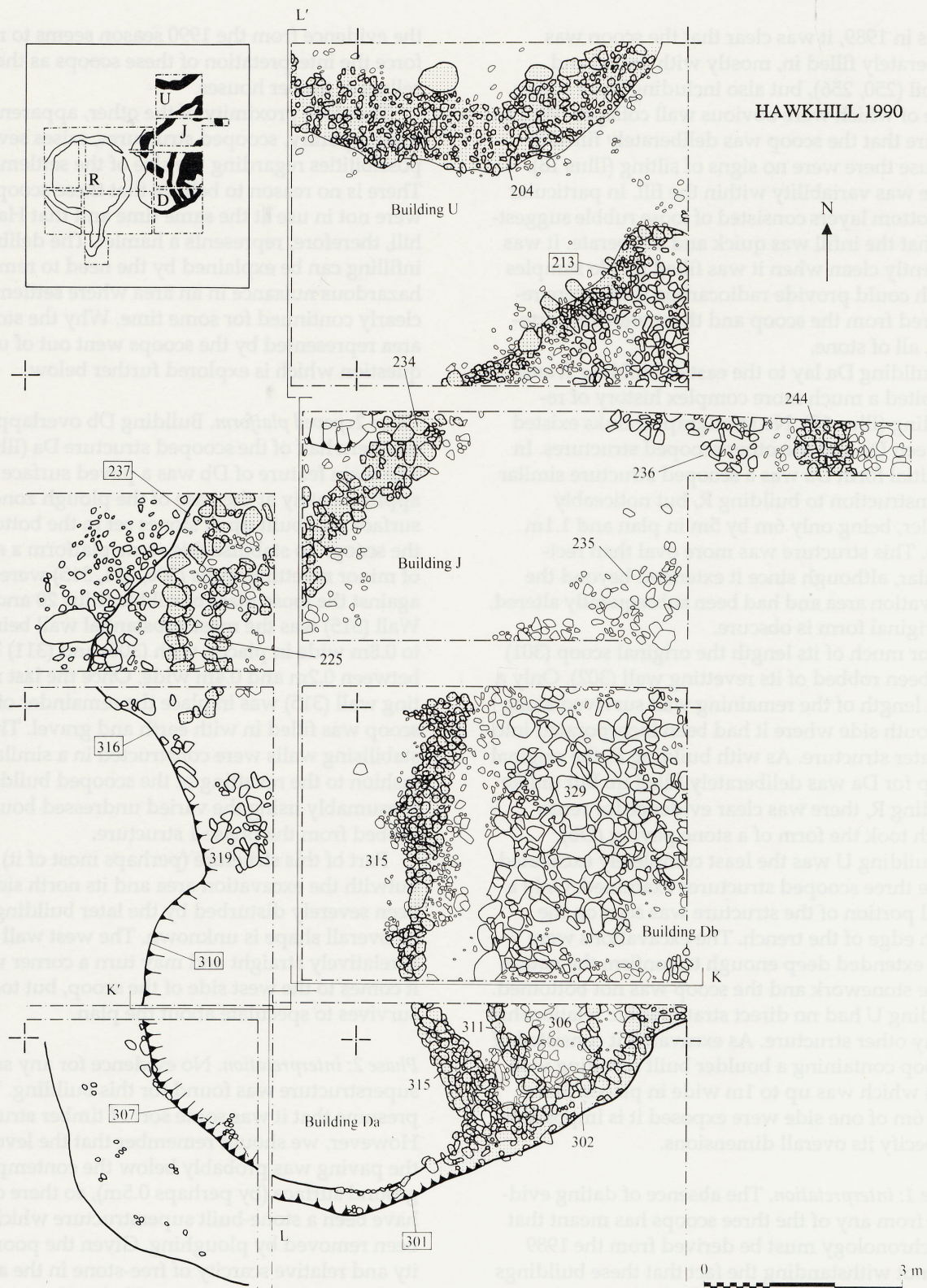
Phase 2: paved platform. Building Db overlapped the southern half of the scooped structure Da (Illus 19). The main feature of Db was a paved surface (326) approximately at the base of the plough zone. This surface was built up of stones set in the bottom of the scoop. To stabilise this stone platform a series of minor revetting walls (306, 311, 315) were built against the loose mass of rubble (Illus 20 and 21). Wall (315) was the most substantial wall being up to 0.8m wide in places, with (306) and (311) being between 0.2m and 0.4m wide. Once the last revetting wall (315) was in place the remainder of the scoop was filled in with earth and gravel. The stabilising walls were constructed in a similar fashion to the revetting of the scooped buildings, presumably using the varied undressed boulders robbed from the phase 1 structure.

Part of this structure (perhaps most of it) lay outwith the excavation area and its north side had been severely disturbed by the later building J, so its overall shape is unknown. The west wall (315) is relatively straight and may turn a corner where it comes to the west side of the scoop, but too little survives to speculate about the plan.

Phase 2: interpretation. No evidence for any sort of superstructure was found for this building. We presume that it was some sort of timber structure. However, we should remember that the level of the paving was probably below the contemporary ground surface (by perhaps 0.5m), so there could have been a stone-built superstructure which has been removed by ploughing. Given the poor quality and relative scarcity of free-stone in the area, a timber structure seems more likely. Alternately this could simply have been an open area of paving.

Reuse of both the building materials and the house stances suggests that the changes observed in the building form were undertaken by the descendants of those people who occupied the original settlement. Why the building form changed is beyond answering on the available data.

Phase 3: the longhouse. Building J also occupied part



Illus 19. Hawkhill plan of eastern portion of trench containing buildings D, J and U.

of the Da stance and post-dates building Db (Illus 19). Building J appears to have been a narrow rectangular building, but it was the least well preserved of any of the structures and was difficult to identify. It proved impossible to recognise the line of the south wall where it overlapped with Db. In fact, so indistinct were the walls that its form was

identified only after the angular cut into the subsoil (in the north-west) was recognised as the corner of a building.

Structure J consisted of straight sided walls (235) made up of the same naturally occurring rounded boulders as used in the earlier buildings. Building J seems to have stood largely above



Illus 20. Over view of Hawkhill site from the south at the end of excavation (copyright: Royal Commission on the Ancient and Historical Monuments of Scotland).

ground, but in the north-west it had been cut into the slope. Here the foundations were cut 0.5m into the subsoil. In this corner the wall (325) survived well enough to see that it was of double skin construction. The space between the walls was filled with small rubble. There was no trace of clay or other bonding agent. Preservation in this corner was exceptional; elsewhere the walls consisted of jumbled heaps of small rubble which suggests that the large stones had been robbed or removed by the plough.

The overall dimensions of building J were about 4m by 10m, measured to the middle of the spreads of the robbed-out walling. The walls were in such a ruinous state that no structural features such as a doorway, crucks or a hearth could be identified. Traces of a floor survived as an ashy

layer with some compact cobbles (236), and a single post-hole was discovered in the interior of the building.

Phase 3: interpretation. The poor survival of the final building on the site may be explained as a result of it having stood largely above ground, and having been built of unsuitable stone. Given the poor survival of the superstructure, the most important feature of the building is its plan. It is significantly narrower than any of the other structures seen on either site and seems to mark a radical departure from the previous architectural traditions. The closest parallels for structures of this size are the medieval longhouses which have been excavated rarely in Scotland (Yeoman 1991). Sadly there is no close dating evidence for the structure. The absence

of closely associated pottery may suggest that this building was abandoned by the 12th century; it will be argued below that in this case the presence of SECWW recovered from the plough zone suggests that Hawkhill was occupied in the 12th to 15th century (see p 105).

Hawkhill: general discussion

Since there were no radiocarbon dates for Hawkhill the site is dated by analogy with Easter Kinnear, which is to say that Hawkhill structures R, D and U were of the same period. Since they respect one another, they may all be contemporary as well. The later buildings Db and J seem to represent use which extends for another several centuries. As in the case of Easter Kinnear the reuse of the D stances suggests that there was no long-term abandonment between phases. The continual rebuilding and remodelling of the settlement is indicative of a long-lived successful settlement. The fact that quite different building traditions are represented underscores the stability and longevity of the settlement. Indeed, the form of the final building seems to take us into the medieval period proper.

Finds

The preservation of finds at both Easter Kinnear and Hawkhill was poor due to the freely draining, acidic subsoils. Only stone and ceramic artefacts survived in any significant number and many of the stone objects are fragile and decaying.

A moderate quantity of pottery was recovered from the base of the plough zone during the cleaning which followed the stripping of the upper levels. This includes medieval as well as modern material. Occasional small fragments were associated with the levels below the plough zone. These were found towards the top of the subsoil features, positions which are readily explained as the result of moles and other burrowing animals. The significance of the medieval pottery recovered from the plough zone is discussed below (p 105).

The artefacts have been catalogued by material and by excavation season. Short discussions of the various categories of finds proceeds each catalogue. A general discussion of the finds assemblage follows the catalogues. The standard entry is as follows: catalogue number; site code (either EK or H); context number; structure or phase; small find number (if issued); description.

Only a few finds were recovered which were contemporary with the occupation of Easter Kinnear. These were dominated by coarse stone artefacts, although a small blade and a pin were also recovered. The Hawkhill site was no richer in artefacts. Only coarse stone artefacts were recovered in association with archaeological struc-

tures. This meagre assemblage has contributed little to the site interpretation, but they do provide an indication that the social status of the inhabitants was not high.

Stone objects

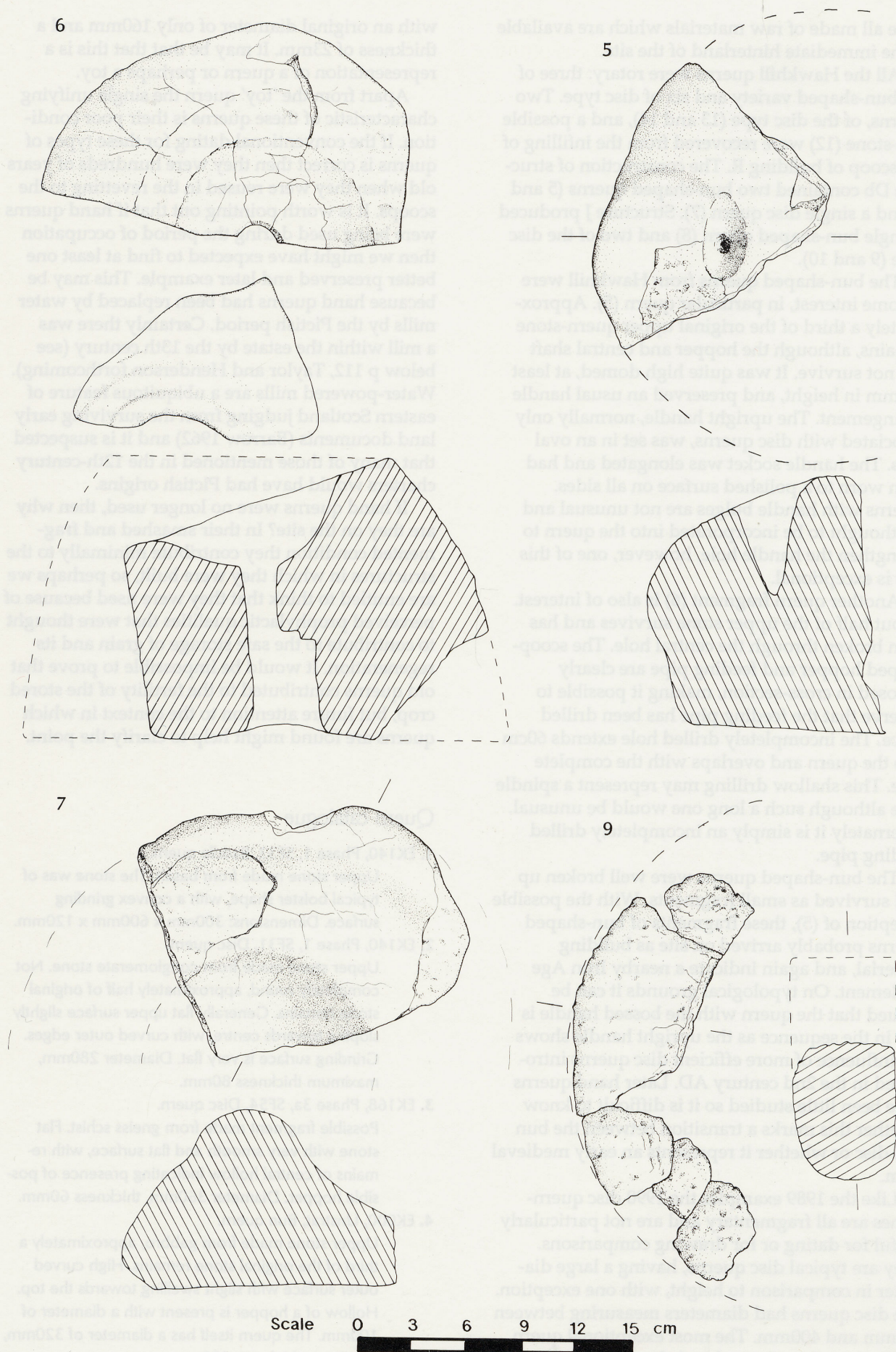
Quern-stones. Quern-stones were the most common stratified find in both seasons. Many were in very poor condition having been broken in antiquity and in some cases having decayed as a consequence of long exposure to acidic soil conditions. Only some of the stones were sufficiently well preserved to merit detailed consideration and quite a few could only be recognised by the presence of their grinding surface.

Three quern-stones were found stratified at Easter Kinnear, with an additional one having been recovered from the plough zone. The querns were made of various stones, all of which can be readily procured from the surrounding area apart from gabbro. The gabbro may have been brought to the area by glacial activity or may represent trade. All four querns were fragments of upper stones, which is not surprising as the lower stones are rarely recovered, probably because they have fewer recognisable features. Two of the stratified stones (1 and 2) were found built into the main wall (140) of the phase 1 scooped structure. The third (3) was recovered from the infill of the scoop, while the fourth stone (4) came from an unstratified context.

Three types of querns were represented at Easter Kinnear: one saddle quern, two disc querns and a bun quern. The saddle quern is a typical bolster shape, which is rarely found after the Early Iron Age (Curwin 1937, 137). This early quern, used here as building material, probably indicates a nearby Early Iron Age settlement.

The unstratified bun-shaped quern is also probably residual. Bun-shaped querns are strongly associated with sites dating to before the 2nd century AD when it was thought that they were replaced by the more efficient upright loose handled disc querns (MacKie 1972). The two disc querns are typical of their type, being fairly flat with a large diameter in comparison to their height (MacKie 1987, 6). The disc querns found at Easter Kinnear are not complete and have few distinctive features, no handle hole or complete hopper was present and therefore they are not closely datable. Disc querns first appeared in the Middle Iron Age and continued in use until the early 20th century in remote regions of Scotland.

Nine recognisable quernstones were recovered from the Hawkhill excavations. They were well distributed across the site: three from building R (12, 13, 14), three from structure Db (5, 6, 7) and three from structure J (8, 9, 10). Again, the stones



Illus 21. Selected quern-stones.

were all made of raw materials which are available in the immediate hinterland of the site.

All the Hawkhill querns were rotary: three of the bun-shaped variety and six of disc type. Two querns, of the disc type (13 and 14), and a possible bed-stone (12) were recovered from the infilling of the scoop of building R. The construction of structure Db contained two bun-shaped querns (5 and 6) and a single disc quern (7). Structure J produced a single bun-shaped quern (8) and two of the disc type (9 and 10).

The bun-shaped querns from Hawkhill were of some interest, in particular quern (5). Approximately a third of the original upper quern-stone remains, although the hopper and central shaft did not survive. It was quite high domed, at least 145mm in height, and preserved an usual handle arrangement. The upright handle, normally only associated with disc querns, was set in an oval boss. The handle socket was elongated and had been worn to a polished surface on all sides. Querns with handle bulges are not unusual and are thought to be incorporated into the quern to strengthen the handle hole, however, one of this size is exceptional.

Another quern fragment (6) is also of interest. About half of the upper stone survives and has been broken through the central hole. The scoop-shaped hopper and feeding pipe are clearly exposed in cross-section, making it possible to observe that the feeding pipe has been drilled twice. The incompletely drilled hole extends 60cm into the quern and overlaps with the complete hole. This shallow drilling may represent a spindle hole although such a long one would be unusual. Alternately it is simply an incompletely drilled feeding pipe.

The bun-shaped querns were well broken up and survived as small fragments. With the possible exception of (5), these fragments of bun-shaped querns probably arrived on site as building material, and again indicate a nearby Iron Age settlement. On typological grounds it can be argued that the quern with the bossed handle is late in the sequence as the upright handle shows the influence of more efficient disc querns introduced in the 2nd century AD. Later hand querns have been little studied so it is difficult to know whether this marks a transition between the bun and disc or whether it represents an early medieval form.

Like the 1989 examples the 1990 disc quern-stones are all fragmentary and are not particularly useful for dating or for drawing comparisons. They are typical disc querns, having a large diameter in comparison to height, with one exception. The disc querns had diameters measuring between 280mm and 400mm. The most exceptional quern (11) is a small perforated and shaped stone disc

with an original diameter of only 160mm and a thickness of 23mm. It may be that this is a representation of a quern or perhaps a toy.

Apart from the 'toy' quern the single unifying characteristic of these querns is their poor condition. If the conventional dating for these types of querns is correct then they were hundreds of years old when they were reused in the revetting to the scoops. It is worth pointing out that if hand querns were being used during the period of occupation then we might have expected to find at least one better preserved and later example. This may be because hand querns had been replaced by water mills by the Pictish period. Certainly there was a mill within the estate by the 13th century (see below p 112, Taylor and Henderson forthcoming). Water-powered mills are a ubiquitous feature of eastern Scotland judging from the surviving early land documents (Barrow 1962) and it is suspected that many of those mentioned in the 12th-century charters would have had Pictish origins.

If hand querns were no longer used, then why are they on the site? In their smashed and fragmented condition they contribute minimally to the structures in which they were built, so perhaps we are entitled to think that they were used because of perceived prophylactic qualities that were thought to contribute to the safe storage of grain and its regeneration. It would be impossible to prove that old querns contributed to the fertility of the stored crop, but future attention to the context in which querns are found might help to clarify the point.

Quern catalogue

1. EK140, Phase 1, SF33, Saddle quern.

Upper stone made from basalt. The stone was of typical bolster shape, with a convex grinding surface. Dimensions: 300mm x 600mm x 120mm.

2. EK140, Phase 1, SF31, Disc quern.

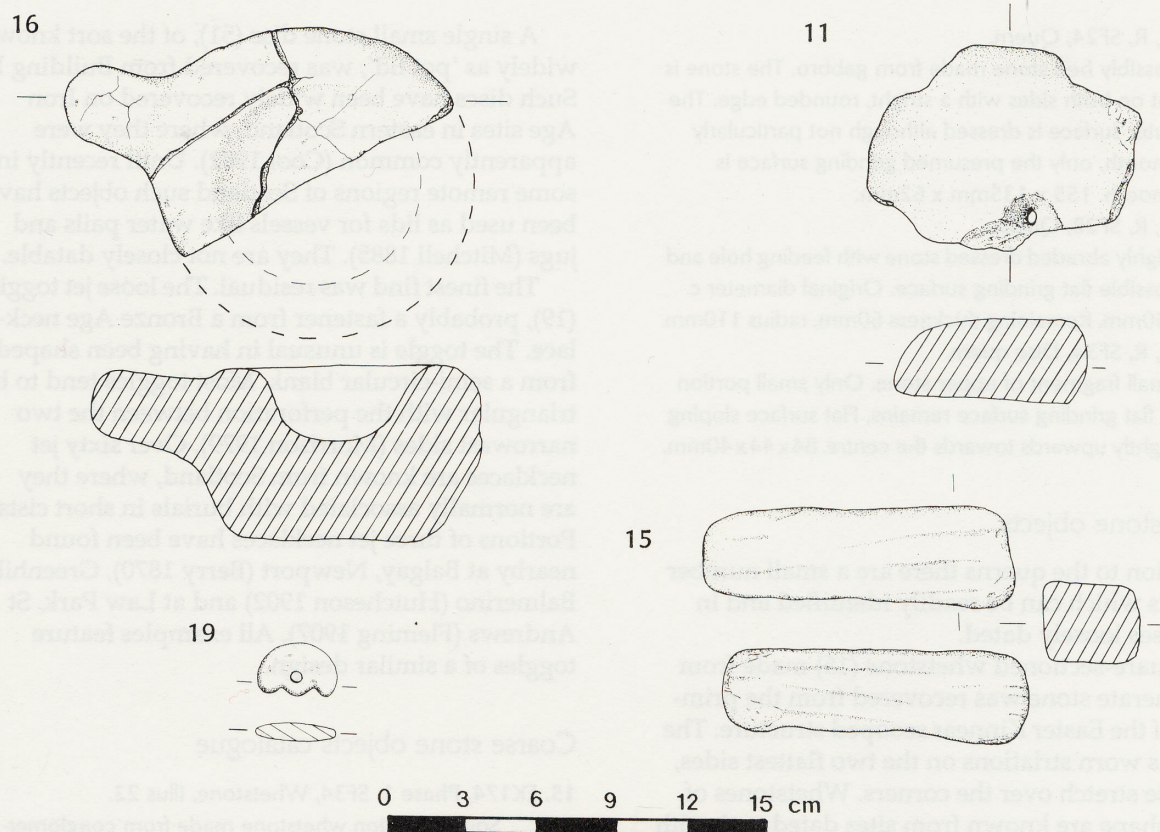
Upper stone made from conglomerate stone. Not completely round, approximately half of original stone remains. Generally flat upper surface slightly sloping towards centre, with curved outer edges. Grinding surface is very flat. Diameter 280mm, maximum thickness 80mm.

3. EK168, Phase 3a, SF54, Disc quern.

Possible fragment made from gneiss schist. Flat stone with very smooth and flat surface, with remains of central hollow indicating presence of possible hopper. Diameter 360mm, thickness 60mm.

4. EK000, Unstrat, Bun quern.

Upper stone made from gabbro, approximately a third of the original stone remains. High curved outer surface with slight swelling towards the top. Hollow of a hopper is present with a diameter of 100mm. The quern itself has a diameter of 320mm, maximum thickness 100mm.



Illus 22. Selected small finds.

5. H303, Db, SF19, Bun quern, Illus 21.

Approximately a third of the upper stone made from gabbro. The quern has an oval handle socket measuring 60mm by 27mm which has been worn to a polished surface on all sides, which is unusual as rotary querns are normally only worn on the inside surface. The socket is set in an oval boss measuring 120mm by 60mm, which fits comfortably into the hand and is most likely for assisting the rotary movement of the quern. The outer surface is convexly curved, with a flat, smooth grinding surface. Diameter 320mm, thickness 145mm.

6. H314, Db, SF22, Bun quern, Illus 21.

Upper fragment with curved, scoop-shaped hopper and feeding pipe, representing approximately half the original quern. The quern is made from gabbro basalt. The feeding hopper is 110mm in diameter. Feeding pipe is 100mm long and 20mm wide. There is another cut section at the side of the feeding pipe, which most likely represents a groove for the spindle measuring 60mm in length. The upper side of the quern is highly abraded and very little of the original surface remains. Diameter of 320mm, maximum thickness 120mm.

7. H317, Db, SF47, Disc quern, Illus 21.

Fragment of upper stone made from gabbro. It has a slightly curved outer surface, which slopes down towards a centre depression, which could be the remains of a hopper. The stone is in very poor

condition, having become very friable. Approximate diameter 400mm, thickness 80mm.

8. H232, J, SF23, Bun quern.

Upper stone with featureless curved outer surface made from gabbro. The stone itself is starting to decay, approximately 10mm of the outer surface is cracked and flaking away. Diameter 400mm, remaining thickness 115mm.

9. H208, J, SF14, Disc quern, Illus 21.

Upper fragment made from gabbro. The condition of the quern is very poor. The stone has crumbled and broken into small pieces despite conservation treatment. Only part of the outer edge remains, the outer surface is flat sloping slightly upwards towards the centre. Diameter 280mm, thickness 60mm.

10. H201, J, SF4, Disc quern.

Small fragment made from Devonian sandstone. Dressed stone with slightly sloping upper surface and curved edge. Very flat, smooth grinding surface. Upper surface a small, shallow depression possibly representing a handle socket. Diameter 280mm, thickness 50mm.

11. H230, J, SF17, 'Toy' disc quern, Illus 22.

Small disc of red sandstone apparently shaped to represent a tiny disc quern. The hopper has a maximum diameter of 22mm. Possibly represents a toy quern. It could also represent a loom weight, but there is no sign of wear. Diameter 160mm, thickness 32mm.

12. H262, R, SF24, Quern.

Possibly bed stone made from gabbro. The stone is flat on both sides with a straight, rounded edge. The outer surface is dressed although not particularly smooth, only the presumed grinding surface is smooth. 155 x 135mm x 62mm.

13. H266, R, SF28, Quern.

Highly abraded dressed stone with feeding hole and possible flat grinding surface. Original diameter c 250mm. Remaining thickness 60mm, radius 110mm.

14. H256, R, SF34, Disc quern.

Small fragment of upper stone. Only small portion of flat grinding surface remains. Flat surface sloping slightly upwards towards the centre. 84 x 44 x 40mm.

Coarse stone objects

In addition to the querns there are a small number of objects which can be readily identified and in some cases loosely dated.

A square-sectioned whetstone (15) made from conglomerate stone was recovered from the primary fill of the Easter Kinnear scooped structure. The stone has worn striations on the two flattest sides, and these stretch over the corners. Whetstones of similar shape are known from sites dated to the 6th to 11th centuries AD, although they tend to be finer than this example (eg Alcock 1963, 135). This whetstone is similar to an example found in the 9th-century deposits at Dundurn (Alcock et al 1989).

Hawthill produced a slightly more varied group of objects, the most interesting of which was a cup-shaped stone lamp (16) with projecting horizontal handle recovered from the rubble wall of building J. Approximately half the cup remains but it is friable and in an advanced state of decay. Fortunately, the handle side survived. Stone lamps with projecting handles are not closely datable, but have been found throughout north-east Scotland. They are normally associated with the Iron Age and are thought to be younger than those lamps with perforated handles (cf Coutts 1971, 67, 75). The find spot of the lamp in the make-up of the latest building to be investigated suggests that this dating may be too restrictive. It was such a small piece of stone, by comparison with the querns, that it seems unlikely to have been salvaged for building material. It seems at least possible that was made and used during the early Middle Ages.

A nearly complete schist spindle whorl (17) was recovered from the fill of building R. Spindle whorls are not common on early medieval sites in northern Britain. Alcock et al suggest that this reflects a diminished interest in spinning and weaving at this time (1989, 220). It would be unwise to suggest on the strength of one artefact that spinning was taking place within the building, however, its presence does imply domestic activity in the immediate vicinity.

A single small stone disc (51), of the sort known widely as 'pot lid', was recovered from Building R. Such discs have been widely recovered on Iron Age sites in eastern Scotland, where they were apparently common (Cool 1982). Until recently in some remote regions of Scotland such objects have been used as lids for vessels like water pails and jugs (Mitchell 1885). They are not closely datable.

The finest find was residual. The loose jet toggle (19), probably a fastener from a Bronze Age necklace. The toggle is unusual in having been shaped from a semi-circular blank. Most toggles tend to be triangular with the perforation between the two narrowest sides (Morrison 1979). Over sixty jet necklaces are known from Scotland, where they are normally associated with burials in short cists. Portions of three jet necklaces have been found nearby at Balgay, Newport (Berry 1870), Greenhill, Balmerino (Hutcheson 1902) and at Law Park, St Andrews (Fleming 1907). All examples feature toggles of a similar design.

Coarse stone objects catalogue

15. EK174, Phase 1, SF34, Whetstone, Illus 22.

Square section whetstone made from conglomerate stone. The stone has worn striations on the two most flattest sides, and these stretch over the corners. Dimensions 34mm by 35mm by 125mm.

16. H225, J, SF19, Stone lamp, Illus 22 and 23.

Circular, cup-shaped stone lamp with a projecting handle. The lamp is made from gabbro. Approximately half the cup remains which is very fragmentary. The stone has splintered and cracked into small pieces. The bowl is relatively shallow in proportion to the bulk of the body of the lamp. The round-sectioned handle was 45mm long. Diameter of bowl 52mm, height 75mm.

17. H266, R, SF39, Spindle whorl.

Schist disk, with flat sides, nearly complete. Diameter 70mm, central hole diameter 8mm, thickness 8mm.

18. H267, R, SF25, Stone disc.

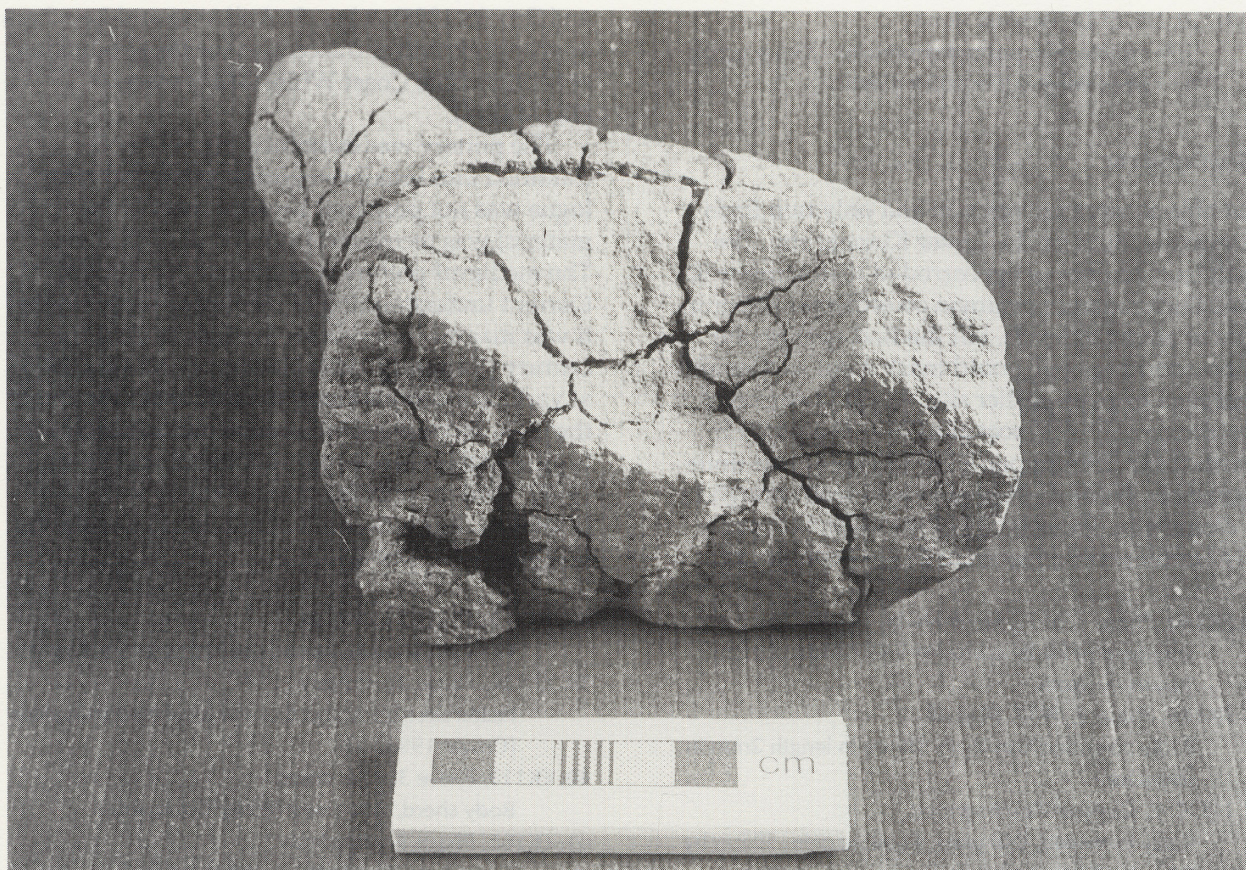
Small 'pot lid' made from micaceous sandstone. Diameter 130mm, 20mm thick.

19. H210, SF41, Jet toggle, Illus 22.

Crescent-shaped toggle shaped from a half disc which has had two shallow V-shaped cut on either side of a central perforation. The toggle is slightly abraded, although originally it does not appear to have been finely finished. 32mm x 25mm x 3mm, perforation diameter 5mm.

20. H303, Db, SF16, Worked stone.

Dark grey, irregular fragment which appears to be the body sherd of a stone vessel such as a lamp. A naturally occurring ridge on the exterior surface has been crudely modified by cutting grooves along and across it to create a line of raised squares. These squares differ slightly in size but are all about 6mm on a side and raised about 1mm. 33 x 30 x 21mm.



Illus 23. The stone lamp (cat no 16).

Miscellaneous stone objects

Other fragments of worked stone were recovered from Easter Kinnear, including two pieces of worked flint. Three roughly hollowed and worn stones were recovered from Hawkhill (34, 39, 47). These may be described as door pivot stones, but their actual function is unclear and none was found in situ. Similar objects were also present at Hawkhill.

21. EK158, phase 3, SF52, Worked stone.

Rectangular stone with opposite flat, smooth sides made from gabbro. The upper side has a slightly stepped edge. 130mm by 230mm by 190mm.

22. EK137, Phase 3, SF54, Worked stone.

Worked stone with flat surface made from micaceous schist. Maximum 90mm by 5mm.

23. EK113, Phase 3, SF26, Flint.

Small flake of worked? flint. 18 x 6 x 6mm.

24. EK113, Phase 3, SF1, Worked? stone.

Flake from a black igneous cobble, not certainly artefactual. 47 x 29 x 7mm.

25. EK136, Phase 3, SF28, Chert flake.

Flake which appears has been retouched on one side. 18 x 8 x 2mm.

26. EK108, unphased, SF29, Jet fragment.

Small piece of unworked jet. 38 x 15 x 12mm.

27. H311, Db, SF38, Worked stone.

Rectangular with pecked scoop made from Devonian sandstone. 215mm by 170mm. Scoop diameter 100mm and depth 85mm.

28. H243, J, SF37, Worked stone.

Roughly pecked stone scoop in a lump of Devonian sandstone. 120mm by 60mm. Scoop 50 x 70 x 25mm.

29. H201, J, SF33, Worked stone.

Roughly square fragment of micaceous sandstone with one smooth surface. 90mm by 85mm by 25mm.

30. H234, J, SF26, Worked stone.

Irregularly shaped stone with one flat side. Four grooves (8mm wide) cut into upper side, by the plough? 200mm by 90mm by 120mm.

31. H268, R, Worked stone.

Rectangular limestone lump with one slightly narrower side. 155mm by 65mm by 35mm.

32. H266, R, SFN44, Worked stone.

Block of Devonian sandstone with pecked scoop (50mm diameter and 20mm deep. Surface with scoop is flat and smoothly finished. 125mm by 90mm by 65mm.

33. H319, J, (225), Worked? stone.

Limestone fragment. 55 x 45 x 25mm.

34. EK137, Phase 3, SF51, Worked? stone.

Split cobble with flat surface. 120 x 105 x 45mm.

35. H319, Db, SF35, Worked stone.

Split cobble with pecked depression, 35mm across by 13mm deep. 130 x 105 x 45mm.

Metal objects

Iron objects were uncommon and only two finds were made, both on the Easter Kinnear site. The small iron blade was too corroded to determine its form. Such tools are common on settlement excavations of all social levels, but the find spot (in the scoop revetting wall) could mark it out as a residual artefact from an earlier site. A highly corroded iron pin or nail was recovered from the phase 2 hearth (148). The copper-alloy fragment was unrecognisable. None of these survived well enough to be diagnostic. The scarcity of metal finds is probably another consequence of the soil conditions.

36. EK140, Phase 1, SF21, Small blade.

Fragment of badly corroded knife blade. 35mm by 12mm by 3mm.

37. EK148, Phase 2, SF37, Pin/nail.

Badly corroded iron shaft. 18mm in length 2mm in diameter.

38. H236, R, Copper-alloy fragment.

Badly corroded, thin plate. Possible coin. 10mm by 5mm by 0.3mm.

Pottery

Moderate quantities of pottery were recovered from the plough zone but very little pottery came from archaeological contexts in either season. At Easter Kinnear a sherd each of medieval and post-medieval pottery was recovered from the phase 3 ditches, while at Hawkhill all but two of the sherds were recovered from the plough zone. These small sherds in the features are best explained as material from the plough zone introduced into the features by animal burrowing, evidence for which was visible in some contexts. The two prehistoric sherds were certainly residual. The scarcity of pottery is in marked contrast to the excavations at North Straiton, which produced considerable quantities of later prehistoric pottery from well-stratified contexts associated with structural remains (Watkins 1987). The absence of later prehistoric pottery supports the hypothesis that the sites were not occupied in the prehistoric period.

The absence of pottery contemporary with the period of occupation of the structures is not surprising. Early medieval traffic in pottery was via the Irish Sea and is only rarely found on the east side of the country (Campbell 1997). In any case, it is not clear that the site was of sufficient status to have imported wares in the early Middle Ages. Moreover, there is scant evidence for local pottery production prior to the 12th century (McCarthy

and Brooks 1988), when St Andrews and Leuchars appear to be one of the centres for the production of Scottish East Coast White Gritty ware (SECWGW).

The pottery was examined visually and classified into broad categories, a detailed catalogue was not prepared because most of the material was recovered from the plough zone. The medieval pottery was exclusively SECWGW. Current understanding of the dating of this is that it was manufactured from the 12th to the 15th century (Haggarty 1984; Haggarty and Will 1995) at various locations along the east coast. Amongst the early modern material were wares which are typical of the Throsk type (Caldwell and Dean 1992). Modern transfer printed wares were also recovered, but were not distinguished during the analysis of the pottery.

38. EK145, Phase 3a, Pottery.

Featureless body sherd 16th-17th century Scottish.

39. EK130, Phase 3b, Pottery.

Featureless body sherd of the local Neolithic ware (Cowie 1993, 30).

40. EK113, Phase 3b, Pot sherd.

Body sherd, East Coast White Gritty ware.

41. EK165, Phase 3a, Fired clay.

Fragment of fired clay, possibly daub although no definite impressions of wattle were present.

42. H277, R, SF40, Pot sherd.

Body sherd, brown with reduced core. Soft fabric contains mica and large igneous inclusions up to 10mm across. Thick-walled (15mm tapering to 10mm) Flat profile with no discernible curve suggests wall of an irregular vessel. Iron Age. Found on floor of entrance passage to structure R. 55 x 52mm.

43. H303, D, SF5, Pot sherd.

Featureless buff coloured body sherd. Very soft, fine fabric. Heavily abraded. Date uncertain, not prehistoric.

44. H304, D, SF11, Pot sherd.

Featureless body sherd of SECWGW.

Glass

Aside from the plough zone finds (all modern), only one fragment of glass and two beads were recovered from stratified contexts. All were sufficiently small to have been introduced into these contexts by burrowing animals. It appears that glass was rare or absent on these sites.

45. EK104, Phase 3b, Glass fragment.

Sherd of green vessel or bottle glass, maximum dimension 10mm.

46. H305, D, SF42, Bead.

Translucent blue. Slightly irregular barrel-shape with

large perforation. Possibly prehistoric. 4mm diameter, bore 3mm, 2mm long.

47. H309, D, SF6, Bead.

Opaque yellow. Tiny, with a pin hole perforation. Probably modern. 1mm diameter.

Industrial residues

In total 322.4gm of metalworking residues were found at Easter Kinnear from stratified contexts. None was recovered from the phase 2 hearth, showing that it had not been used for any metalworking activities. The widespread presence of slag in small concentrations is consistent with small-scale smithing which would be expected to have been routine on pre-modern farmsteads.

Context	Phase	SF no	weight
EK168	1	36	93gm
EK174	1	30	11gm
EK113	3	38	46gm
EK121	3	43	7.3gm
EK145	3	40	111gm
EK145	3	42	54gm
EK145	3	27	0.1gm

Miscellaneous

Small fragments of what appears to be lime mortar as well as lumps of limestone were discovered in both phases 2 (148) and 3 (113) of Easter Kinnear. The small quantities found suggest this is modern material which may have been spread inadvertently on the field mixed with manure or deliberately when liming the field and introduced by burrowing animals into the archaeological features. The small quantities of coal which were recovered from well-stratified, phase 1 contexts (157, 168) are most likely to represent local deposits derived from the subsoil.

Faunal remains

Preservation of animal bone at Easter Kinnear and Hawkhill was very poor due to the acidic soil. The only bone recovered was burnt or decayed beyond identification. Most of the burnt bone was too small to identify. Teeth were the only unburnt remains to be readily identifiable and all were loose. All that could be done with such evidence was to identify the species represented.

At Easter Kinnear (1989) cattle was present in phases 1, 2 and 3b of the 1989 excavations, one tooth of pig was present in phase 3a and horse teeth fragments were recovered from phase 1. At Hawkhill (1990) cattle bone was found present in association with all phases and structures. Pig was represented by a tooth found within building R.

Plough zone assemblage

The plough zone assemblage produced just the sort of material that one routinely sees in ploughed fields. Apart from the pottery, the finds occur in small quantities and can be understood as the result of routine losses. There is also material which was systematically deposited in the fields. Broken and unwanted objects ended up in the rubbish which was used to manure the fields. The finds in the fields are thus evidence of activity at their source. As a result, the pottery makes a valuable contribution to dating the occupation of the later phases of these settlements.

It should be noted that no attempt was made to recover finds systematically from the levels that were mechanically removed. All of the finds discussed below come from the initial cleaning following the mechanical stripping of top soil. These finds come from the base of the plough zone, but the topsoil is well tilled and well mixed. This material seems likely to accurately represent the distribution of artefacts in the plough zone.

Comparing the pottery from the two sites throws up an instant contrast. Very little post-medieval pottery was recovered from Hawkhill by comparison with Easter Kinnear. This contrast becomes more significant when one considers the relative concentrations of pottery at the two sites. At Easter Kinnear the overall quantities of pottery and glass were much higher (236 pot sherds and 126 glass fragments), than those recovered from Hawkhill (56 and 39 respectively). If we make allowance for difference in the size of areas cleaned down to the subsoil (500 sq m in 1989 and 300 in 1990), there is still a two-fold difference in absolute numbers of finds. This difference in recovery can be explained by the relative proximity of the two sites to the centre of the farm, which stands where the modern Easter Kinnear farm is. Easter Kinnear farm will have been the primary source of manure which has been spread on the fields for the past 500 years or more.

However, when we look at the relative proportions of different types of pottery a clear difference appears between the two assemblages. At Easter Kinnear there were 68 sherds of SECWGW (12th – 14th century) which represents 28% of the total from that site, while at Hawkhill the 48 sherds of SECWGW accounted for 85% of the total.

There appear to be two possible explanations for this discrepancy. First, that medieval manuring practices were responsible for all of the SECWGW recovered from both sites and that this pattern changed abruptly at the end of the Middle Ages, so that Hawkhill was no longer so intensively fertilised as were the fields nearer the main farm.

However, there is an alternative explanation which may allow us to link structure J with the medieval pottery. Hawkhill is so far from the

centre of Easter Kinnear that it was never as intensively manured as the fields closer in were. This is clear from the absolute number of ploughsoil finds. If the sherds of SECWGW were not introduced by manuring from the centre, then it represented activity in and around Hawkhill. The implications of this are that the Hawkhill site continued in existence after the local pottery, SECWGW, became available. The scarcity of later pottery suggests that the settlement was abandoned after the 15th century. Indeed had it survived into the 16th or 17th century we might have expected to have a surviving place-name (Hawkhill is the name of the cottage across the road from the site).

Plough zone catalogue

Easter Kinnear 1989

Pottery:	Scottish East Coast White Gritty ware: 68 sherds Post-medieval wares: 168 sherds
Glass:	126 sherds vessel glass 2 beads and 1 marble
Iron:	a small axe-head 8 nails 2 rivets
Stone:	Bun-shaped quern (4) 4 worked flints
Miscellaneous:	2 lumps lime mortar fragment of leather shoe
Industrial residues:	29.6gm slag

Hawkhill 1990

Pottery:	Scottish East Coast White Gritty ware: 48 sherds Post-medieval wares: 6 sherds
Glass:	39 sherds vessels glass 2 beads
Iron:	4 nails an unidentified object, possibly a piece from some agricultural machine
Stone:	3 limestone fragments
Miscellaneous:	3 clay tobacco pipe stems, 19th century. a penknife, 20th century a pocket watch, lacking case, 19th-20th century 4 fragments fired clay

General discussion of finds

The limitations of the finds assemblage from both seasons are clear. They provide us with problematic dating information and give us our only legitimate insight into the status and social condition of the inhabitants.

If we consider the dating evidence for Easter

Kinnear provided by the finds alone, the picture is confusing. The saddle quern found in the wall of the scooped structure obviously pre-dates the building, but the bun- and disc-shaped querns suggest a date in the early centuries AD. However, the radiocarbon dates point firmly to the middle to later part of the first millennium. Therefore, unless we interpret this as evidence for continued use of bun-shaped querns for an additional 500 years, we must assume that these quernstones were all being used as building material. The only other datable find from the Easter Kinnear phase 1 structure is the square-sectioned whetstone (F4, 174), which can be loosely dated to the second half of the first millennium (Alcock et al 1989, 218).

From a casual glance at the evidence it could be argued that finding bun-shaped and disc querns together in the same structure (R), and a bun-shaped quern from the latest structure (J), might indicate that bun-shaped querns were not replaced by more efficient disc querns as is widely thought (MacKie 1972). On the other hand, if we accept the orthodox dating and critically consider the find spot and condition of the querns, then the mixed querns from Hawkhill are all likely to represent material reused as building stone.

In summary, the presence of these stones and the scarcity of handmade Iron Age pottery can only provide a rough guide to the date. Fortunately, the situation improved following the widespread introduction of good quality wheel-made wares. SECWGW was probably available to all classes of society because it was made so close by, in and around Leuchars. If it is accepted that the SECWGW at Hawkhill represents contemporary settlement (as argued above), then it appears that Hawkhill survived well into the Middle Ages. The longhouse form represented by building J may have been where some of this pottery was used, but the association with the pottery is too loose to be certain. It also helps us to identify the end of the Hawkhill settlement with the decline of SECWGW.

In many respects the finds from these sites are typical of Iron Age sites in eastern Scotland (Cool 1982; Driscoll and Yeoman 1997). Although soil conditions have prevented the survival of artefacts made of organic materials, there is a real sense of poverty in these assemblages. This sense of poverty may be a consequence of these being low status settlements occupied by people with few possessions, but this is not necessarily a sign of deprivation, rather it could be an indication that the occupants made do with fewer durable goods. Recognising that we must not overlook the poor survival of finds, their quantity does suggest a sparse material culture, used by a social group which did not enjoy the access to goods which have come to be identified with high status sites of the early Middle Ages (cf Alcock et al 1989).

Table 1. Easter Kinnear plant remains.

	Phase	1	2	3a					3b							Unstrat	Lin	ditch	
		Wall	Silt	Hea	Inf	Wat		Ditch	1					3	4	Lay	Ph	Fill	Ph
Context						150								104					
		140	108	148	145	152	178	113	124	130	153	161	165	137	149	107	106	9	20
TREES AND SHRUBS																			
Alnus	ch					oc		oc	r	r	oc		oc		oc	r	r		
Betula	ch			r	r	r		r	r	r				r		r			
Corylus	ch	r	r	vab	vab	ab	r	vab	ab	ab	oc	oc	oc	oc	r	r			oc
Fraxinus	ch			fq	r				r			r		r					
Prunus avium/padas type	ch				r				r										r
P. spinosa type	ch																		r
Quercus	ch			oc	fq	fq		ab	fq	ab	oc	r	r	r	r	r	r		r
Salix	ch			oc	fq	r		oc	fq	fq	fq	oc	oc	r	oc	r	r		
Sorbus	ch			fq					oc	oc				r					r
Ulmus	ch				oc			r			oc					r			
CROPS																			
Hordeum vulgare var. vulgare	g			>150	9	4	1	106	153	74	7			12	17		1	2	
H. of var. vulgare	g								203	52									
H. vulgare s.l.	g			>999	25	7	2	84	>500	>500	22			49	16	18	6		
Hordeum	ra ba			3					3	4									
Linum usitatissimum	s			2			1								1				
Triticum dicoccum	g																1		
CROP OR WEED																			
Avena sp. or spp.	g			28	5			15	56	55				4	2	*1	1	1	
ARABLE AND WASTE GROUND																			
Chenopodium album	s			26	1					*4									
Fallopia convolvulus	n			13					1	2				1		1			
Galeopsis subg. Galeopsis	n			1						*15						*1			
Galium aparine	fr			1															
Lapsana communis	a													1					
Persicaria lapathifolia	n			20															
P. of maculosa	n									1							*1		2
Polygonum aviculare agg.	n			1															
	Phase	1	2	3a					3b							Unstrat	Lin	ditch	
		Wall	Silt	Hea	Inf	Wat		Ditch	1					3	4	Lay	Ph	Fill	Ph
Context						150								104					
		140	108	148	145	152	178	113	124	130	153	161	165	137	149	107	106	9	20
Raphanus raphanistrum	fr se			11					2										
Spergula Arvensis	s			6					*1	*2									
WILD PLANT FOODS																			
Allium of scorodoprasum	b			1															
Rubus fruticosus s.l.	fst									1									
R. idaeus	fst			1															
GRASSLAND OR HEATHERLAND																			
Calluna vulgaris	ch			vab	oc	oc	r	r			oc		oc	r					
Cf Calluna vulgaris	fr			21															
Carex binervis	n			5		1			1	3									
C. flacca	n			2															
C. pilulifera	n			11						1									
Cf Danthonia decumbens	car			1					3	15					4				
Empetrum nigrum	fst			1															
Plantago lanceolata	s								1	1									
Potentilla cf erecta	a			1															
Cf Trifolium pratense	s									2									
WATERSIDE AND MIRES																			
Carex viridula	n			1															
C. of viridula	n+u			3															
Eleocharis palustris	n			1															
MISCELLANEOUS																			
Carex spp.	n			2															
Eleocharis sp.	n													1					
Gramineae	car			3					9				1						
Rumex sp. or spp.	n			4					1					1	2	1	1		

Heading abbreviations: Hea, hearth; Inf, infilling; Wat, wattle; Unstrat, unstratified; Ph, post-hole; Lay, layer; Lin, linear

table abbreviations: a, abundant 26-99; a, achene; ba, base; car, caryopsis; ch, charcoal; fr, fruit; fq, frequent; fst, fruitstone; gl, glume; g, grain; n, nut or nutlet; oc, occasional; ra, rachis; r, rare 1-3; se, segment; s, seed, u, tricle; vab, very abundant > 100

Palaeobotanical analysis

Camilla Dickson

The samples from both sites were studied together. The standard samples (20lt) were wet sieved, flots were collected over a 500 micron sieve and

residues over 4mm were dry sorted for plant remains. The identifications are listed in the plant catalogue in the site archive. Table 1 does not include results from the layers brought up by

ploughing. The nomenclature for the wild plants follows Stace (1991). The term 'seed' is used for both fruits and seeds in this paper. Details of the radiocarbon samples are at the end of this section.

At Easter Kinnear modern unburnt seeds of arable weeds were noted in 13 of the 32 contexts which produced plant remains. Earthworm activity, evidenced by egg capsules, was recorded from 8 of these 13 contexts. Such soil mixing is common in fertile soils, especially in sandy soils where the archaeological layers lie close to the surface as at these two sites. With recent stubble burning practices some of the burnt modern seeds will also become incorporated and are not readily distinguishable from ancient seeds. Burnt seeds accompanied by unburnt seeds and chaff of the same taxa have been marked with an asterisk in Tables 1 and 2. A pure collection of several hundred seeds of *Chenopodium album* (fat hen), some still with embryos, was separately recovered from context 153. A similar assemblage of *Raphanus* sp (wild/cultivated radish) was collected from context 145. These may have been cached away by a small animal; *Apodemus sylvaticus* (wood mouse) is known to make such food stores. As at Easter Kinnear, the Hawkhill samples contained unburnt seeds of arable weeds (in 12 out of 20) and earthworm egg capsules were identified (in 5 of the 12).

All the burnt wood is of small fragments, mainly <10mm in diameter. Most of that at Easter Kinnear appears to be of roundwood, that is wood that has not been split artefactually, but due to abrasion its diameter and age were only occasionally recordable.

Easter Kinnear phase 1. The first phase structure, the scooped feature, produced rare *Corylus* (hazel) charcoal fragments from the stone soil within the revetting wall (140) and silt accumulated before the infilling (168).

Easter Kinnear phase 2. This phase is represented by a substantial hearth (148, 170), charcoal from which provided a radiocarbon date (GU-3035). Roundwood of *Corylus*, *Quercus* (oak) and *Salix* (willow) and possible roundwood of *Fraxinus* (ash) and *Sorbus* (rowan/whitebeam) were used as fuel.

Over 150 grains of *Hordeum vulgare* var *vulgare* (hulled six-row barley) were identified; grains of *H. vulgare sensu lato* are, throughout the sites, probably also of hulled barley but because of poor preservation they cannot definitely be separated from those of *H. vulgare* var *nudum* (naked six-row barley). A few of the better-preserved grains can, on the shape of the lemma bases, be referred to the lax-eared type of hulled six-row barley (Jacomet 1987, Table 3), the barley grown throughout Scotland until recent times. Two seeds of *Linum usitatissimum* (flax/linseed) are of interest because seeds of crops not needing special drying, as cereal grain does, are not usually burnt and so preserved; unfortunately, it is not possible to determine whether the crop was grown for flax or linseed. Twenty-eight *Avena* (wild/cultivated oat) grains range from (3.3) 4.4–7.7mm in length. Although it is not possible definitely to separate grain of wild oats from those of cultivated species on grain alone, it is thought that the larger grain at least may be of cultivated oat. This and the significance of the other crop plants is discussed later.

Arable weed seeds are represented by *Chenopodium album* (fat hen), *Fallopia convolvulus* (black bindweed), *Galeopsis* subg *Galeopsis* (hemp-nettle), *Galium aparine* (cleavers), *Persicaria lapathifolia* (pale persicaria), *Polygonum aviculare* (knotgrass), *Raphanus raphanistrum* (wild radish) and *Spergula arvensis* (corn spurrey). Such weed seeds are sparse in other contexts and it may be that these originated from straw used for kindling.

Of particular interest, especially in a hearth where it is likely to be associated with food preparation, is a bulbil of *Allium cf scorodoprasum* (cf sand leek). The bulbil measured 2.5 x 1.8mm with a very thin, shiny outer layer fitting loosely over partly preserved starch cells. The only species of *Allium* native to Britain bearing similar small bulbils is *A. scorodoprasum*. Bulbils are produced on top of the stem, larger bulbs grow at the base of the plant. The sand leek, also called Spanish garlic, was formerly cultivated in England for flavouring (Hedrick 1972); the bulbs are smaller and milder than those of garlic (*Allium sativum*) and it has similar medicinal properties but to a lesser degree. This seems to be the first fossil record for the sand leek. A single seed of *Rubus idaeus* (raspberry) was also found.

From the same context seeds of three species of *Carex* (sedges) together with cf *Danthonia* (cf heath-grass), *Empetrum nigrum* (crowberry), *Plantago lanceolata* (ribwort plantain) and *Potentilla cf erecta* (tormentil) all plants of grassland or heathland habitats were found, these are listed in Table 1. Although in small numbers, their presence is significant. They are accompanied by stems and tentatively identified fruits of *Calluna* (heather), which suggests a heathland origin. It is possible to strip off a largely organic turf from dry heath, held together by heather and grasses. Similar seed assemblages with heather stems have been found in Late Iron Age (Pictish) hearths on Orkney (Dickson 1994) where they were interpreted as heathy turves used to eke out peat where wood was scarce. However, the presence of wood and absence of peat at this site suggests that the material may have originally been collected for a different purpose. The few seeds of plants of watersides and mires are not readily interpretable.

Table 1. Hawkhill plant remains.

	Building	Number of contexts												
		R			D(b)				J					
		Fl	Infill		Rw	If	Tf	Fl	Infill		Tf	Us		
		a	b	c					a	b	c			
Number of contexts		1	1	2	1	1	5	1	2	2	1	1	1	1
TREES AND SHRUBS														
Alnus	ch					r								
Betula	ch		r			oc	r							
Corylus	ch					r	ab	r	r			oc		
Prunus avium / padus ty	ch						r							
Quercus	ch			r	r		oc	r						r
Salix	ch	r					r	r						
Sorbus	ch						r		r					
CROPS														
Hordeum vulgare var vu	g						24	2		1	5			
H. vulgare s.l.	g			5			63*	2		8		3		
Hordeum sp.	ra b						2							
Triticum aestivum s.l.	g						3*			2*		1		
T. dicoccum	g						2							
T. dicoccum/spelta	gl b						1							
CROP OR WEED														
Avena sp.	g						9	1		1		1		
ARABLE AND WASTE GROUND														
Chenopodium album	s						1*				2			
Galeopsis subg. Galeop	n						1							
Galium aparine	a			1										
Malva sylvestris	s						4							
Persicaria lapathifolia	n						9*							
Poa annua	car						1							
Polygonum aviculare ag	n						2*							
GRASSLAND OR HEATHLAND														
Calluna vulgaris	ch			r		r	r	r	r	oc				
Carex nigra	n						1							

Heading abbreviations: Rw, revetting walls; If, infilling; Tf, top fill; Fl, floor; Us, unstratified

table abbreviations: a, abundant 26-99; ab, achene; ba, base; car, caryopsis; ch, charcoal; fr, fruit; fq, frequent; fst, fruitstone; gl, glume; g, grain; n, nut or nutlet; oc, occasional; ra, rachis; r, rare 1-3; se, segment; s, seed, u, tricle; vab, very abundant > 100

Easter Kinnear phase 3a. The deliberate infilling of the scoop (145) contained burnt wattle and daub. Several pieces of wattle were sufficiently well preserved to measure the diameters of the roundwood and, for a few, to count the number of annual rings; the numbers of fragments measured are given in brackets. *Corylus* (10) measures 7 to 19mm, 2 to 11 years old, *Quercus* (3) 13 to 22mm, 7 to 8 years, *Betula* (1) 18mm, 7 years, *Salix* (1) 8mm, 13 years. The diameters and ages of the woods are later discussed. *Calluna* (heather), present as occasional fragments of diameter 5 to 10mm, is unlikely to have formed part of the wattle but could represent roofing thatch or bedding.

Easter Kinnear phase 3a. A series of buildings, constructed on virtually the same place as the scooped structure, is represented by plant remains recovered from the many ditches. Three radiocarbon dates were obtained from burnt wood from three contexts (113, 124, 153), GU-3033, GU-3034 and GU-3036, the last of which is some 2000 years older

than the others.

This discrepancy has been explained as the result of contamination from an early prehistoric feature. As shown in Table 1, the plant remains from the three contexts are very similar. Roundwood and hulled six-row barley predominate. Context 153 (GU-3036) is equivalent to 130 where fifty-five grains of *Avena sp* (wild/cultivated oat) were recovered but *Avena* is not a Neolithic crop plant. Fairweather has searched the British and European literature for Neolithic records of *Avena* records and concludes that records of it are infrequent and the genus is never more than a sparse component of cereal assemblages (Fairweather and Ralston 1993). Because the plant remains for 153 are indistinguishable from those of other ditch contexts and it seems highly improbable that the early date is correct.

If we assume that all the samples from ditch 1 are contemporaneous we can consider the roundwood and other plant remains from ditch 1 together. Roundwood diameters measure, for

Corylus (15+) 7–20mm, 3–4 years, *Quercus* (6) 5–20mm, 3, 8 years and *Salix* (5) 8–15mm, 5–15 years. Roundwood of *Alnus* (alder), *Betula* and *Prunus avium/padus* type (wild cherry/bird-cherry) was also noted. Rare *Fraxinus* from 130, *Ulmus* from 153 and occasional *Sorbus* fragments from 130 are probably not of roundwood. Rare or occasional heather fragments suggest their use as in Phase 3a.

Cereal grains of barley and oat were particularly numerous in 113, 124 and 130 and a seed of *Linum usitatissimum* was found in 178; the same remarks apply as for Phase 2. The arable weed seeds of *Chenopodium album* (fat hen), *Galeopsis* subg *Galeopsis* (hemp-nettle) and *Spergula arvensis* (corn spurrey) are accompanied by unburnt seeds. Otherwise, the grain is remarkably weed free and careful cleaning by sieving or the gathering of individual ears is indicated.

The few remains of grassland plants, *Carex binervis* (green-ribbed sedge), *C pilulifera* (pill sedge), cf *Danthonia decumbens* (cf heath-grass) and *Plantago lanceolata* (ribwort plantain) are not accompanied by heather stems. As discussed for the assemblage from the hearth they could have arrived in turf but the evidence is very slight. Grasses and other plants of hay meadows are not represented and fodder is not indicated.

Easter Kinnear unphased samples. A number of unphased contexts from isolated post-holes and pits were sampled. Charcoal from the layers includes *Alnus*, *Betula*, *Corylus*, *Salix* and *Ulmus* roundwood, that from the post-holes *Alnus*, *Corylus* and *Salix* roundwood with *Quercus* too small to assess. All probably represent wattle. A few poorly preserved grains of *Hordeum vulgare* s l and rare grains of *Avena* were identified. A single grain of *Triticum dicoccum* (emmer wheat) is of interest. Two grains of emmer were found at Hawkhill and are discussed below. Structure G produced two grains of *Hordeum vulgare* var *vulgare* and one of *Avena* from the ditch fill. Post-holes close to this feature yielded *Corylus*, *Prunus avium/padus* type, *Quercus* and *Sorbus* fragments, too small to determine if roundwood was present.

Hawkhill Building R. A floor context (268) produced only rare *Salix* (willow) charcoal. There were no occupation deposits and no hearths were found in any of the excavated Hawkhill buildings. The infill produced only rare fragments of *Betula* (birch), *Quercus* (oak) and *Calluna* (heather) and a few grains of *Hordeum vulgare sensu lato* (six-row barley) in total from four samples.

Hawkhill Building Db. The structure built over the scooped structure Da yielded only rare charcoal of *Corylus* (hazel) and *Calluna* from the revetting wall (315). The results of five samples combined from

the infilling produced relatively abundant *Corylus* charcoal, some at least of which is roundwood, with occasional fragments of *Betula* and *Quercus* with rare *Alnus* (alder), *Prunus avium/padus* type (wild cherry/bird-cherry type), *Salix* and *Sorbus* (rowan/whitebeam).

Cereals are represented by *Hordeum vulgare* var *vulgare* (hulled six-row barley) with three grains of *Triticum aestivum* (bread wheat) and two grains of *T dicoccum* (emmer wheat). As Fife is now an important wheat growing area the find of bread wheat is not unexpected. Although unburnt barley and wheat chaff were found in the infill these are generally smaller than present-day grains and not thought to be contaminants from recent stubble burning. The emmer wheat is somewhat surprising in this Pictish or post-Pictish context. As emmer grains are hulled and need separate processing to remove the glumes it may be that emmer was a residual cereal, perhaps in the hulled barley crop, lingering on from prehistoric times when it was grown in the more climatically favourable areas of Scotland. The nine grains of *Avena* (wild/cultivated oat) are rather small, up to 5.5mm long, and not further identifiable. The sample from the topfill (304) produced rare seeds of those plants most commonly found in the lower infill.

There are a few arable weed seeds but the presence of unburnt seeds in the infill suggests that some could be of recent origin. Occasional seeds of grassland and heathland plants are similar to those from Phase 3b at Easter Kinnear; they too offer very slight possible evidence for the use of turf as fuel. The occurrence of occasional fragments of burnt peat, the earliest from the two sites, may indicate that wood for fuel was becoming scarce.

No evidence for a superstructure was detected from the archaeological evidence. The relatively few charcoal fragments could have been from wattle but their small size and abraded nature allowed only a few to be determined as roundwood.

Hawkhill Building J. This building superseded structure Db and was probably a medieval long-house. An ashy layer from a possible floor (236, 238) produced rare fragments of *Corylus* and *Salix* roundwood with rare *Calluna* stems and occasional burnt peat. The four samples combined from the infill produced only a few grains of *Hordeum vulgare* var *vulgare*, three grains of *Triticum aestivum* and two grains of *Avena* sp. Occasional fragments of burnt peat were recovered from context 243. The topfill (207) produced only occasional charcoal fragments.

From an unstratified post-hole (320) from the interior of the building, rare *Quercus* and occasional fragments of burnt peat were recovered.

Discussion of Easter Kinnear

The results set out in Table 1 and elaborated above give valuable evidence for the type of woods used and crops grown during the occupancy of the site. The predominance of roundwood confirms the archaeological evidence for wattle and daub. From the relatively few remaining fragments it seems that a variety of woods were used. The measurable fragments show a size range of from 5 to 25mm. The narrower diameters presumably represent the narrow ends of the rods. Measurement of wattle from two prehistoric and a medieval site fall mainly in the 10 to 25mm range (Morgan 1988, fig 2). The age range, taken from even fewer fragments, of 2 to 15 years, does not suggest coppicing on a regular cycle and, indeed, there is no evidence that trees were deliberately coppiced. Such flexible young shoots would arise naturally from some species as suckers or from storm-felled trees as well as those deliberately cut down.

To judge from the burnt fragments the woods used were predominantly of *Corylus* (hazel) with *Quercus* (oak) and *Salix* (willow) as important components and smaller numbers of *Alnus* (alder), *Betula* (birch), *Fraxinus* (ash), *Prunus avium/padus* type (wild cherry/bird-cherry type), *P spinosa* type (blackthorn type), *Sorbus* (rowan/whitebeam) and *Ulmus* (elm). This suggests an open woodland with *Corylus*, *Fraxinus*, *Prunus* species and *Ulmus* on better soils and with *Alnus* and *Salix* in wetter areas.

It is somewhat surprising to find such a variety of woods available in an area which has had such a long record of human settlement. To ascertain whether such rich woodland was widespread in north-east Fife local pollen diagrams were examined bearing in mind that *Prunus* and *Sorbus* species are only occasionally recorded as pollen. The nearest pollen sequence is from Pitbladdo some 8km to the south-west (Donald 1981). There are, unfortunately, no radiocarbon dates but from the Neolithic to the top of the sequence a gradual decline in tree pollen corresponds to a rise in herbaceous pollen, especially grasses and some *Plantago*, as woodland was progressively cleared. Until recently the tree cover was dominated by *Alnus* and *Corylus* with some *Quercus* and small amounts of *Betula*, *Pinus* and *Ulmus*. Some 15km also to the south-west, dated cores from Black Loch (Whittington et al 1991) show a similar picture overall with the addition of *Fraxinus* and rare *Sorbus* pollen from the middle of the first millennium AD. Although extensive farming is indicated there seems to have been sufficient wood for building and fuel to meet the needs of the inhabitants in the Pictish period.

Hordeum vulgare var *vulgare* (hulled six-row barley), known also as bere barley, seems to have been the most important cereal as it was elsewhere

in Scotland for the last two thousand years until recent times. As previously stated *Avena* (wild/cultivated oat) is not further identifiable on grain alone. A single incomplete floret base with rachilla is of a cultivated species. The grains range from 3.3 to 7.7mm in length; the longer grains, at least, are probably those of a cultivated species. *Avena strigosa* (black oat) was formerly grown in Scotland but has now virtually been replaced by *Avena sativa* (common oat).

The four seeds of *Linum usitatissimum* (flax/linseed) must be chance preservation of a separate crop. The plant does not compete well with weeds and would need special tending. Although there are sparse records throughout prehistory in Scotland it seem to have become more commonly grown in the Pictish and Norse periods.

The preservation especially of a bulbil of *Allium* cf *scorodoprasum* (cf sand leek) as well as seed of *Rubus fruticosus* (bramble) and *R idaeus* (raspberry) provide tantalising glimpses of other features of diet. Together with wood, grain and other seeds they remind us that these remains, fortuitously preserved, represent only a small part of the material culture.

Hawkhill discussion

The relatively few cereal remains could represent either storage or domestic use. The burnt peat in buildings Db and J amount to a few fragments in forty litres from a possible floor in J and samples of between twenty and a hundred litres from the infillings of Db and J. Although this indicates that peat was used at Hawkhill, perhaps due to a shortage of wood suitable for fuel in the later occupations, the contexts do not clearly link the burnt peat to use in these buildings. The addition of bread wheat, probably later than at Easter Kinnear and extending into the medieval period, is of interest although the small number do not give any indication of its importance as a crop.

The radiocarbon dates

GU-3033	EK89-113 (phase 1)	1440±60	AD 556-650
<i>(Alnus, Calluna, Betula, Corylus, Quercus, Salix and Ulmus spp)</i>			
GU-3034	EK89-124 (phase 1)	1420±50	AD 581-654
<i>(Alnus, Corylus, Prunus, Quercus, Salix and Sorbus spp)</i>			
GU-3035	EK89-148 (phase 2)	1430±50	AD 575-650
<i>(Calluna, Corylus, Fraxinus, Quercus, Salix and Sorbus spp)</i>			
GU-3036	EK89-153 (phase 1)	3530±50	2009-1755 BC
<i>(Alnus, Calluna, Corylus, Quercus, Salix and Ulmus spp)</i>			

Four charcoal samples from Easter Kinnear were analysed by the Radiocarbon Dating Laboratory at the Scottish Universities Research and Reactor

Centre. The results have been calibrated at Glasgow University using the University of Washington programme based upon the Stuiver and Becker (1986) dataset.

General discussion

The Easter Kinnear excavations offer the opportunity to examine the archaeology of the Pictish peasantry and to consider how this previously inaccessible element of Pictish society influenced the later medieval landscape. The following discussion has three main strands: first, the historical background to the Kinnear estate is reviewed; second, we consider the importance of the site for rural settlement studies; and finally, we consider the implications of the excavations for Pictish studies.

Historical background

The name of the parish in which Kinnear is situated, Kilmany, is first recorded c 1202 and derives its name from the Gaelic *cill*- 'church' and the obscure St Maine. Despite the obscurity of this saint, the dedication appears early: probably no later than the 8th century (Taylor 1996, 99–106). The place-name Kinnear means 'east end' and probably refers to the east end of the parish (Taylor and Henderson forthcoming). The Kinnear portion of Kilmany juts out along the valley of the Motray Water and is clearly the east end of the parish.

The origins of the family which held Kinnear for most of the Middle Ages appear to go back to the mid-12th century, when many Anglo-Norman followers of David I were settled in north-east Fife. The earliest notice of this family refers to a grant of a carucate of land in Kedlock, Logie parish (south-west of Kilmany) to one Simon, son of Michael (Bannatyne Club 1841, 292). This grant was subsequently confirmed on several occasions in the 12th century, first by Malcolm IV (1153x65) (Barrow 1960, 198–9) and subsequently by William I (Barrow 1971, 136, 145, 232). It is presumed that this Simon was part of the entourage of David I that accompanied the king north from England, because his father Michael has been identified with the Michael de Hanesel who witnessed two charters of David in Northampton (Lawrie 1905, 58, 321; Taylor and Henderson forthcoming). Simon's descendants acquired the estate of Kinnear early in the 13th century. They appear to have transferred their principal residence to Kinnear and started to style themselves 'De Kyner'. In later centuries Kinnear is described as a Free Barony with its caput at Kinnear Castle. The family names was for centuries Kinneir de Kinneir. The family identification with Kinnear is interesting, because not only were these Anglo-Norman incomers adopting a new surname, but a Gaelic

one. This implies that Kinnear was more than a geographical description, but was a recognised entity, an estate that was a going concern at the time of its acquisition by Simon.

The antiquity of the site and the royal relationship have encouraged scholars to describe Kinnear as a thanage (cf Skene 1876–80; Muir 1975). However, Grant (1993) omits it from his list of thanages because Kinnear is never specifically described as such. This attribution presumably arose because by 1511 the baronial lands included a third part of the thane's lands of 'Straburn Fordale and Fotheris', which were originally a part of the lordship of Leuchars.

The foundation of Balmerino Abbey (c 1230) by Ermengarde, the widow of William I, had a profound influence on the lordship of Kinnear. Roughly one third of Kinnear was granted to the Abbey by (another) Simon of Kinnear c 1250 (*Balmorinach Liber* nos 12, 13 and 14). The original charter and its subsequent confirmations contain considerable topographical detail and have recently been the subject of detailed study by Simon Taylor and J M Henderson (forthcoming). They have demonstrated that the original grant corresponds closely to the modern farm of Wester Kinnear, making it a significant donation and, more importantly, the description of the marches reveal the locations of the key components of the Kinnear estate. These charters testify to the coherence of the Kinnear estate, in the east end of Kilmany parish, throughout the Middle Ages.

Clearly the centre of the estate was what is now Easter Kinnear farm, where a ruinous tower survives as an almost featureless stump of masonry to the west of the present farmhouse. The first specific reference to the castle is in a charter of James IV of 1511 x 12 (RMS ii, no 3715) which describes the lands and barony of Kinnear '*cum turrim et fortalicum*'. The condition of the tower makes it difficult to estimate its true age, which is likely to be much older.

The study of the charters undertaken by Taylor and Henderson makes it possible to appreciate the location of the castle with respect to the other elements of the estate. The position of the tower on the *Keithin Burn was located centrally within Kinnear and provided with a good water supply, in an ideal position to serve as the caput of the estate. Following the alienation of Wester Kinnear, this centrality was diminished. This same burn also supplied the water used to power the mill, presumably a horizontal mill, which seems to have been a ruin in the 13th century. By combining the historical and archaeological evidence, it is possible to indentify at least four settlements within Kinnear. Those we know about were fairly evenly spaced. We also know that they had different life spans. Perhaps all four were occupied in

early Pictish times, but it seems that first the 1989 site and then the 1990 site dropped out of use by the end of the Middle Ages.

Environmentally the Kinnear estate was diverse. Marshy areas on both the east and western edges of Kinnear not only reinforced the geographical containment of the valley but also provided particular resources. Perhaps most important for people who constructed buildings of wood, wattle and daub was the convenient woodland which seems to have been responsible for the name of the *Keithin Burn, derived from the Pictish word *coet 'wood' (Taylor and Henderson forthcoming).

Contributions to medieval settlement studies

With this historical background in mind we might now consider what contribution these excavations have made to our understanding of medieval rural settlement in Scotland. As Whittington et al (1991) discovered from their pollen studies at Black Loch, by the 11th century Fife was extensively given over to cereal cultivation and had relatively few trees. This intensification of arable activity is evident from the Pictish period and given the fertility and climate is perhaps not surprising. However, the importance of timber for building and the wide range of species available implies that significant forests survived, which may well have been managed woodlands.

Judging from the artefacts recovered from these two excavations it would appear that these were the dwellings of people of modest or servile status. Certainly there were none of the material signs of conspicuous consumption (such as metalwork, weaponry and imported goods) which characterise early medieval elite settlements. If these sites do represent the dwellings of peasants, then there should be many others around the immediate area, where the conditions are suitable for this architectural tradition. The question arises as to whether these distinctive crop marks of scooped structures can be identified elsewhere.

In an attempt to provide a provisional answer to this question, a brief survey was made of the aerial photographs in the National Monuments Record of Scotland (Fletcher 1993). This involved searching for crop marks with characteristics similar to those at the Easter Kinnear site, that is the solid sub-rectangular areas of late ripening on the order of 10m across. Attention was focused on the area north of Cupar, although sites were identified widely in north-east Fife. From the two excavated sites it was clear that they might be clustered into small groups of settlements or stand alone. In the event, at least nine comparable crop-mark sites were identified. These include: South Friarton (NO42 NW68), Burnside (NO42 NE45), West Third, (NO41 NE17), Newbrigg of Ceres (NO41

SW17), Monimail (NO31 SW54), Esky Loch (NO42 NW56) Western Friarton (NO42 NW64), Kirktonbarns (NO42 NW00), Forgan (NO42 NW46).

The majority of the sites identified consisted of between three and five dark circular blobs of approximately the right size. Several appeared sub-rectangular (but furrow patterns in the crops do tend to artificially suggest straight sides). The largest group of scooped structures at South Friarton, where there are eighteen possible scoops, would have represented a relatively large settlement if all the structures were contemporary (Illus 24). The South Friarton crop marks probably represent a long history of settlement. At the near end of the crop-mark group there is a cluster of particularly crisp solid features, familiar from Easter Kinnear, while the forms of the crop marks strung out along the ridge look much more like the hollowed and silted up floors of prehistoric round houses (Maxwell 1983).

Nevertheless, even if *most* of these crop-mark sites are in fact prehistoric round houses, there remains a significant portion that must represent contemporary Pictish settlements. With greater attention to details of setting and morphology, such as the projecting Hawkhill type of entrance, it should be possible to identify with some confidence other early medieval settlements elsewhere in north-east Fife. Whether these house forms are regionally specific or had a more widespread popularity remains an open question, but one which further study of aerial photographs could resolve.

Given the uncertainty of the application of these aerial observations, it would be inappropriate to discuss the distribution or density of peasant settlement on the basis of two excavated examples. Nevertheless, the occurrence of two contemporary sites so close together within the bounds of an ancient estate does require some comment. Kinnear looks as though it was a busy landscape in the early Middle Ages in which the population was more evenly dispersed than later. The clustering of structures apparent at Hawkhill, even if all structures were contemporary, would not represent a large community. It may be appropriate to compare this settlement with early modern fermtouns which were composed of extended family groups who collaborated in their farming.

In some respects the identification of the possible battered longhouse (structure J) at Hawkhill with its tentative association with medieval pottery has been the most unexpected result. In view of its scale, its clustered dwellings and the apparent high medieval occupation, it is tempting to see Hawkhill as a precursor of the post-medieval fermtoun. If this is correct it would fill the gap that exists between early medieval and early modern rural settlement.



Illus 24. South Friarton unenclosed settlement (NMRS ref NO42NW68, Copyright: Royal Commission on the Ancient and Historical Monuments of Scotland, neg F/9223).

We can now argue with some confidence that this was a settlement with Pictish, but not pre-historic, origins, which survived into the high medieval period. Previously we could only do this for high status sites and then rarely. It has been commonplace to assume that much medieval rural settlement was obscured by modern farms, however, we will have to reconsider whether such continuity of occupation really explains the obscurity of lower status medieval rural settlement and consider whether we have been looking in the right places.

Implications for Pictish studies

Throughout this report we have drawn attention to the most conspicuous feature of these settlements, the great scoops, and considered the influences of available building materials on architectural form.

The obvious parallel for these subterranean chambers is provided by souterrains, which have come to be understood principally as storehouses of the Late Iron Age (Watkins 1984). Like the southern souterrains studied by Wainwright (1963), our sites are located in prime cereal land where it would be absurd to suggest that barley, oats and wheat were not the main agricultural products.

Although our current understanding of the chronology of souterrains would suggest that it is unlikely there was any chronological overlap with the scooped structures, the long-term fate of the scoops was identical; they were deliberately filled in. In the case of the Easter Kinnear site where a similar-sized structure was built on the same stance, we are bound to ask: why the architectural change? The only difference our data permits us to observe between the early and late Easter Kinnear

houses concerns storage capacity. There seem to be two alternative explanations. Either better methods of storage were developed which were above ground or the storage of grain was no longer taking place within individual dwellings and had been centralised. There is no archaeological evidence that will allow us to select one alternative, but there are reasons for preferring an explanation based upon changes in control over the agricultural landscape, which is implied by the notion of centralisation.

Major progress in Pictish settlement studies was made in the 1970s and 1980s (surveyed by Alcock 1984 and Foster 1992, 1996). These reviews make it clear that there is considerably more evidence for settlement than had been previously recognised and that it is more complex and regionally distinctive. For example, it is clear that there is no such thing as a typical Pictish house. The cellular house at Buckquoy (Ritchie 1977) does not appear to be typical even for Orkney, let alone further afield. By recognising that there are substantial regional variations among Pictish houses, it becomes easier to set the Easter Kinnear house alongside the Pitcarmick and Buckquoy houses. However, the discovery of yet another type site suggests that further classification may not lead to greater clarity. More profitable would be to subject the evidence of Pictish sites whatever their form to fine-grained analysis of their landscape setting and historical background.

The transition from circular house forms to rectangular ones has long been recognised as one of the key medieval transformations of British and Irish society. Various notions have been offered to justify this change, from the observation of Roman military architecture, to Germanic halls and Christian churches. These seem all to be possible influences, but until now it has not been possible to chart the development in Pictland as closely as the Easter Kinnear sequence allows.

Although the circuit of the third phase at Easter Kinnear was incompletely preserved, there can be little doubt that the building was rectangular with proportions which were almost square. (The superstructure of the scoops could also have been square, but we have no compelling evidence.) Rectangular forms have been known in the far north from Pictish contexts for some time (Foster 1992) and have recently been recognised and dated in upland Perthshire to the early medieval period (RCAHMS 1990; Barrett et al forthcoming). Neither provides a very close approximation to the Easter Kinnear house in terms of proportions.

At Easter Kinnear the clearest link in this architectural change is with the abandonment of the large storage capacity. If this abandonment of the subterranean chamber was associated with the adoption of a rectangular building plan, then this

would indicate that it is part of a larger social transformation. One of the clearest social trends which we can chart from later prehistory to the Middle Ages is the concentration of control over land and its produce into fewer and fewer hands. The erection of the early symbol stones seems to mark a crucial step in this process in the Pictish area (Driscoll 1988, 1991). It seems logical to infer that the loss of individual storage capacity reflects a loss in control over agricultural production and over the land itself. This is exactly what we should expect to be the consequence of the creation of an estate.

Certainly by the time there is historical evidence for Kinnear it appears to be a coherent estate, because the land was available for the king to use as a means of providing for his key supporters. Such developments cannot take place overnight, although the title may change hands in an instant. At Easter Kinnear with the infilling of the underground storage areas we may be seeing this process of shifting control over land from a dispersed rural population into the hands of a smaller elite. Given that landed property was the basis of secular authority in medieval Scotland, it is not surprising that we should find evidence for this change in the early Middle Ages. That it may be taking place in 6th- or 7th-century Fife may seem early, but the only way to pursue the question will be to formulate new research designs to specifically investigate Pictish and later rural settlement.

Acknowledgements

Trevor Watkins was the director of the Scottish Field School of Archaeology during these excavations and invited me to co-direct the Easter Kinnear excavations, for which I am most grateful. The experience of working with him was both educational and enjoyable. The students and committee members of the SFSA, who are too numerous to mention by name, not only did the organisational work and provided the physical labour but contributed enormously to the pleasure of the digs. Mr Ronnie Henderson, the owner of Easter Kinnear, graciously allowed us to carve holes in his fields and provided every assistance. We were blessed with many visitors during the course of the work, but we wish particularly to thank Reg Candow, Peter Yeoman and Edwina Proudfoot all of whom provided valuable advice while the excavations were in progress.

Jane Fletcher made a significant contribution to this report by preparing an early version of it as an M Litt project for Leicester University. Most of the drawings were prepared by Elizabeth Bartley, with the assistance of Jane Fletcher and Lorraine McEwan. Simon Taylor has generously shared the

unpublished results of the investigation into the Kinnear estate and the history of the Kinnears undertaken with J M Henderson, both of whom have provided detailed comments on earlier drafts, which have saved me from many errors. Morag Cross provided help with the documentary searches. Michael Donnelly, who dug on the site, provided valuable critical comments on the final draft. Finally, the editors and referee for TAJ are to be thanked for their patience and editorial improvements.

The site records and photographic archive are deposited in the National Monuments Record of Scotland, Edinburgh.

Financial sponsorship for the work was provided by Historic Buildings and Monuments (SDD), Scottish Office Special Grants (Environmental), Edinburgh Archaeological Services, the University of Glasgow Archaeology Department, the Russell Trust, the British Academy and Fife Regional Council.

References

- Alcock, L 1963 *Dinas Powys: An Iron Age, Dark Age and Early Medieval Settlement in Glamorgan*, (Cardiff).
- Alcock, L 1981 'Early historic fortifications in Scotland', in Gilbert, G (ed), *Hill-fort Studies*, 150-181, (Leicester).
- Alcock, L 1984 'A survey of Pictish settlement archaeology', in Watson, G and Friell, G (eds), 7-42.
- Alcock, L, Alcock, E and Driscoll, S T 1989 'Excavations at Dundurn, St Fillans, Perthshire, 1976-1977', *Proc Soc Antiq Scot* 119 (1989), 189-226.
- Anderson, M O 1980 *Kings and Kingship in Early Scotland*, (Edinburgh).
- Bannatyne Club 1841 *Liber Cartarum Prioratus Sancti Andree in Scotia*, (Edinburgh).
- Barrett, J C, Downes, J, Hooper, J and Jack, C forthcoming 'Pitcarmick', *Medieval Archaeol.*
- Barrow, G W S (ed) 1960 *Regesta Regum Scottorum, Malcolm IV (1153-1165)*, (Edinburgh).
- Barrow, G W S 1962 'Rural settlement in central and eastern Scotland', *Scottish Studies* 6 (1962), 123-144.
- Barrow, G W S (ed) 1971 *Regesta Regum Scottorum, William I (1165-1214)*, (Edinburgh).
- Barrow, G W S 1973 *The Kingdom of the Scots*, (London).
- Caldwell, D H and Dean, V E 1992 'The pottery industry at Throsk, Stirlingshire, in the 17th and 18th century', *Post-Medieval Archaeology* 26 (1992), 1-46.
- Campbell, E 1997 'The archaeological evidence for external contacts: imports, trade and economy in Celtic Britain AD 400-800', in Dark, K (ed), *External Contacts and the Economy of Late Roman and Post-Roman Britain*, 83-96, (Woodbridge).
- Candow, R 1989 *Prehistoric Morton*, (Dundee).
- Clark, D V, Cowie, T G and Foxon, A 1985 *Symbols of Power at the Time of Stonehenge*, (Edinburgh).
- Close-Brooks, J 1982 *Dark Age Sculpture: a collection from the National Museum*, (Edinburgh).
- Close-Brooks, J 1984 'Pictish and other burials', in Friell, G and Watson, G (eds), 87-114.
- Cool, H E M 1982 'The finds' in Harding, D (ed), *Later Prehistory in South-East Scotland*, 92-100, (Edinburgh).
- Coutts, H 1971 *Tayside Before History*, (Dundee).
- Cowie, T 1993 'A survey of the Neolithic pottery of eastern and central Scotland' *Proc Soc Antiq Scot* (1993), 13-41.
- Curwen, E C 1937 'Querns', *Antiquity* 11, 133-151.
- Dickson, C 1994 'Plant remains', in Ballin Smith, B (ed), *Howe: four millennia of Orkney Prehistory*, (Edinburgh).
- Dickson, C forthcoming 'Past uses of turf in the Northern Isles, Scotland', in Coles, G and Mills, C M (eds), *Human Settlement and Marginality*.
- Donald, A P 1981 'A pollen diagram from Pitbladdo, Fife', *Transactions Botanical Society Edinburgh* 43,4 (1981), 281-289.
- Driscoll, S T 1988 'Power and authority in early historic Scotland: Pictish symbol stones and other documents', in Gledhill, J et al (eds), *State and Society the Emergence and Development of Social Hierarchy and Political Centralisation*, 215-236, (London).
- Driscoll, S T 1991 'The archaeology of state formation in Scotland', in Hanson, W S and Slater, E A (eds), 81-111.
- Driscoll, S T 1992 'Discourse on the frontiers of history: material culture and social reproduction in early Scotland', *Historical Archaeology* 26:3 (1992), 12-24.
- Fairweather, A D and Ralston, I B M 1993 'The Neolithic timber hall at Balbridie, Grampian Region, Scotland: the building, the date, the plant macrofossils', *Antiquity* 67 (1993), 313-323.
- Fleming, A 1907 'Notice of the recent discovery of a cist with fragments of urns and a jet necklace at law park, near St Andrews, with a note of the discovery near the same place of a cremation cemetery of the Bronze Age, with cinerary urns in 1859', *Proc Soc Antiq Scot*, 41 (1907), 401-414.

- Fletcher, J 1993 Excavations at Easter Kinnear (1989) and Hawkhill (1990), North East Fife, (Unpublished MA dissertation, University of Leicester University).
- Foster, S M 1992 'The state of Pictland in the age of Sutton Hoo', in Carver, M (ed), *The Age of Sutton Hoo. The Seventh Century in North Western Europe*, 217–234, (Woodbridge).
- Foster, S 1996 *Scots, Picts and Gaels*, (London).
- Freeman, P 1997 'Excavations at Craigie Hill, Fife, 1991', *Tayside and Fife Archaeological Journal* 3 (1997), 61–73.
- Friell, J G P and Watson, W G (ed) 1984 *Pictish Studies*, (Oxford).
- Grant, A 1993 'Thanes and thanages, from the eleventh to the fourteenth centuries', in Grant, A and Stringer, K (eds), *Medieval Scotland Crown, Lordship and Community*, 39–81, (Edinburgh).
- Haggarty, G. 1984 'Observations on the ceramic material from phase 1 pits BY and AQ', in Tabraham, C, 'Excavations at Kelso Abbey', *Proc Soc Antiq Scot* 114 (1984), 365–397.
- Haggarty, G and Will, R 1995 'Ceramic material', in Lewis, J and Ewart, G, *Excavations at Jedburgh Abbey*, 98–104, (Edinburgh).
- Hanson, W S and Slater, E A (eds) 1991 *Scottish Archaeology, New Perceptions*, (Aberdeen).
- Hedrick, U P (ed) 1972 *Sturtevant's Edible Plants of the World*, (New York).
- Hope-Taylor, B 1977 *Yeavinger*, (London).
- Hutcheson, A 1902 'Notice of the exploration of a cairn of the Bronze Age at Greenhill, in the parish of Balmerino, Fife', *Proc Soc Antiq Scot* 36 (1902), 635–653.
- Jackson, K H 1955 'The Pictish language', in Wainwright, F T (ed), *The Problem of the Picts*, 129–168, (Edinburgh).
- Jacomot, S 1987 *Prähistorische Getreidefunde. Botanisches Institut der Universität, Abteilung Pflanzensystematik und Geobotanik*, (Basel).
- James, H 1996 'Drummoig (Cowbakie Hill and Craigie Hill)', *Discovery and Excavation in Scotland* (1996), 28.
- Kendrick, J 1995 'Excavations of a Neolithic enclosure and an Iron Age settlement at Douglasmuir, Angus', *Proc Soc Antiq Scot* 125 (1995), 29–67.
- Laing, L 1971 'Medieval pottery in Dundee Museum', *Proc Soc Antiq Scot* 103 (1971), 169–177.
- Laing, L 1973 'Cooking pots and the origins of the Scottish medieval pottery industry', *Archaeol J* 130 (1973), 183–216.
- Lawrie, A C (ed) 1905 *Early Scottish Charters, prior to 1153*, (Edinburgh).
- McCarthy, M R and Brooks, C M 1988 *Medieval Pottery in Britain AD 900–1600*, (Leicester).
- MacKie, E W 1972 'Some new quernstones from brochs and duns', *Proc Soc Antiq Scot*, 104 (1972), 137–46.
- MacKie, E W 1987 'Leckie Broch the impact of the Scottish Iron Age', *Glasgow Archaeol J* 14 (1987), 1–18.
- Maxwell, G S 1983 'Recent aerial survey in Scotland', in Maxwell, G (ed), *The Impact of Aerial Reconnaissance on Archaeology*, 27–40, (London).
- Maxwell, G S 1987 'Settlement in southern Pictland', in Small, A (ed), *The Picts a New Look at Old Problems*, 31–34, (Dundee).
- Millar, A H 1895 *Fife Pictorial and Historical*, vol. 1, (Edinburgh).
- Mitchel, A 1880 *The Past in the Present: What is civilisation?*, (Edinburgh).
- Morgan, R A 1988 'The case for wattling – what tree-ring studies could reveal', in Murphy, P and French, C (eds), *The Exploitation of Wetlands*, 77–91, (Oxford).
- Morrison, A 1979 'A Bronze Age burial site at South Mound, Houston, Renfrewshire', *Glasgow Archaeol J* 6 (1979), 20–45.
- Muir, P 1975 'Thanages', in McNiell, P and Nicholson, R (eds), *An Historical Atlas of Scotland, c. 400 – c. 1600*, 27–28, 126, (St Andrews).
- RCAHMS 1990 *North-East Perth: an Archaeological Landscape*, (Edinburgh).
- RCAHMS 1994 *South-East Perth: an Archaeological Landscape*, (Edinburgh).
- Ritchie, A 1977 'Excavations of Pictish and Viking-age farmsteads at Buckquoy, Orkney', *Proc Soc Antiq Scot* 104 (1977), 174–227.
- RMS = Thomson, J M 1912 *The Register of the Great Seal of Scotland*, (Edinburgh).
- Selkirk, A and W 1992 'Doughnuts and bananas: the Leuchars cropmark project', *Current Archaeol* 131 (1992), 472–474.
- Skene, W F 1876–80 *Celtic Scotland*, 3 vols, (Edinburgh).
- Small, A (ed) 1987 *The Picts: A New Look at Old Problems*, (Dundee).
- Stace, C 1991 *New Flora of the British Isles*, (Cambridge).
- Stuiver, M and Becker, B 1986 'High-precision calibration of the radiocarbon time scale, AD 1950–500 BC', *Radiocarbon* 28 (1986), 805–862.
- Taylor, D B 1982 'Excavation of a promontory fort, broch and souterrain at Hurly Hawkin, Angus', *Proc Soc Antiq Scot* 112 (1982), 215–253.
- Taylor, S 1995 *Settlement Names in Fife*, (unpublished Ph D Thesis, University of Edinburgh).
- Taylor, S and Henderson, J M forthcoming 'The

- medieval marches of Wester Kinnear, Kilmany parish, Fife'.
- Wainwright, F T 1955 'The Picts and the Problem', in Wainwright, F T (ed), *The Problem of the Picts*, 1-53, (Edinburgh).
- Wainwright, F T 1963 *The Souterrains of Southern Pictland*, (London).
- Watkins, T 1980 'Excavation of a settlement and souterrain at Newmill, near Bankfoot, Perthshire', *Proc Soc Antiq Scot* 110 (1980), 122-208.
- Watkins, T 1984 'Where were the Picts? An essay in settlement archaeology', in Friel and Watson (eds), 63-86.
- Watkins, T 1987 'North Straiton', *Discovery and Excavation in Scotland* (1987), 15-16.
- Whittington, G, Edwards, K J and Cundill, P R 1991 'Late and post-glacial vegetational change at Black Loch, Fife, eastern Scotland - a multiple core approach', *New Phytologist* 118 (1991), 147-166.
- Whittington, G and Soulsby, J A 1968 'A preliminary report on an investigation into Pit place-names', *Scot Geog Mag* 84 (1968), 117-125.
- Yeoman, P A 1991 'Medieval rural settlement: the missing years', in Hanson, W and Slater, E A (eds), 112-128.

Abstract

Two excavations of crop-mark sites (NO496235 and NO410240) undertaken in 1989 and 1990 on the lands of Easter Kinnear, Kilmany, Fife revealed settlements of Pictish date. Separate sequences of buildings were examined at each site, both of which included distinctive structures built over a scooped hollow. Radiocarbon samples obtained from the 1989 structures date the construction to the mid-6th to mid-7th centuries AD. The settlements are among the earliest peasant dwellings from medieval Scotland and as such make a significant contribution to our understanding of land use from Pictish and medieval times.

Key words: crop-mark, settlement, medieval, landscape



Colour plate 3. View of Easter Kinnear from the north-west with the 1989 excavation site at the end of the ridge (see pp 74–118).



Colour plate 5. Ballinbreich mount (see pp 200–201).



Colour plate 4. Completed excavation of structure R at Hawkhill (see pp 74–118) (courtesy of RCAHMS).



Colour plate 6. Papal bulla (see pp 200–201).



Colour plate 7. St Monans pilgrim's badge (see pp 200–201).